

HEALTH.

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* * * There is nothing so necessary for the well being and health of young and old, as a proper intermixture of both exercise and rest. This is applicable not only to bodily exercises, but also to mental effort, and nothing is truer than they mutually depend upon each other. I mean a healthy mind is dependent upon a healthy body, and a healthy body is almost invariably indicative of a vigorous intellect. For a number of years the leading universities have recognized this fact, and have given the greatest encouragement to manly and vigorous sport, and annually Oxford and Cambridge have as generously rivalled each other in athletic sports, as they do in their literary and classical curriculum. One institution that is particularly noted in England for its classical education and thorough course of teaching, familiar as a household word, is particularly noted for its athletic sports of a rough and ready nature. In the palmy days of ancient Greece and Rome, the noblest in the land contended for the honors of the arena, and the mimic battle produced the soldier that conquered the world, the orator of silver tongue and the sculptor that called the inanimate marble into life. I propose to devote a few words to the exercise and the well being of the pupils in our schools, and here I would say I am not much in favour of an indoor gymnasium, as to obtain the greatest benefit from exercise it should be taken in the open air.

The question arises, do our pupils receive sufficient out-door exercise to be conducive to their health and to sustain any extramental effort they are called upon to make. And here I must disclaim the barbarous practice of detention after hours for punishment. No other view can be taken of this than it is most injurious to the health of the pupil and depresses both mentally and physically. I believe that the first successful step toward education begins in the play ground, and it becomes the duty of those engaged in the instruction of the young to seize every available opportunity of giving the pupil sunlight and fresh air, and encourage him by his example to extract the most practical benefit from it. I notice with regret, it is too much the custom of the rising generation to ignore the games so familiar to us in our childhood, in which strength and skill played the most prominent parts. Of course the application of this is directly in the hands of the teacher, and it is his duty to carefully observe that the exercise be moderate as the tired pupil is unfit for study. As the different modes of proper exercise are so well known it is unnecessary for me to dwell further on this part of the subject, in the full belief that we all concede to the fact that the mental advancement of our pupils depend in a great measure upon exercise, and that no truer aphorism was ever penned than "*Mens sana in corpore sano.*"

As there is a time for work, a time for play, there is a time for rest. Tired nature demands a cessation from labour too often not granted to it. This applies to bodily as well as to mental exertion. The pleasurable excitement of the game, the length of the race, possess a claim for the young that nature appeals to in vain. So likewise to the ambitious pupil. The weary head may ache, the bodily strength may fade, and still a knowledge that he is overtaking his brain either does not occur to him, or if it does is unheeded.

It is a sad fact that the epitaph over work could be truthfully written on the tombstone of many a young grave in our country, and sadder yet to think that kindly admonition and judicious advice could have averted the evil.

Enter the factory where from morn till eve, busy little fingers unceasingly toil, mark the haggard look, the listless eye, the cheek from which the bloom of youth has fled, and in this read the emphatic lesson of unremitting labor, and in no less degree will over taxation of the brain sap the secret springs of life, storing up for future time a host of maladies, to cast their shadow on all the sunny

hours of life. Sleep is tired nature's best restorer, and for the young, late hours for study cannot be too strongly deprecated. The knowledge of the capabilities of each pupil should be the proceptor's guide, as to the task imposed and of such a length as not to inflict upon the pupil the danger of late and continuous study. The desire of parents that a child should excel, nor our wish to prematurely produce a brilliant scholar, should allow us to overtax the intellect, or deny it the hours of rest so necessary for health. Childhood and old age demands the longest sleep. For the middle-aged eight hours is sufficient. Childhood demands at least from ten to twelve. During sleep little or no waste of the system goes on. The heart is slower in its action, the brain, except in dreams, is totally at rest. In fact all the complicated machinery of our bodies is quiescent. Physiology with good sense declares that the longer you sleep the longer will the vital energies of life retain their vigour, consequently, the duration of life is proportioned to the length of sleep and *vice versa*. To enjoy rest, moderate toil must sweeten it. The great Master who knew the value of this offers no more consoling promise to the weary Christian soldier than his armour laid aside, his battles fought, to enter into rest. Not the transient rest that the morning *reville* wakes to newer toil and harder fields, but a rest that is eternal.

The selection of a site for the erection of a building is of paramount importance. Low lands which are not capable of drainage should be avoided, for I think most certainly the greater part of the health of a household depends upon the cellar and the drainage, for the millions of bacteria or disease producing germs, the originators of diphtheria, fever, and all the graver forms of maladies, which war against this little throb of life, originate in damp, ill drained and sunless surroundings. Fresh air—sunlight—are the persistent enemies of these low grade organisms: *e. g.*, if a large number of these microbes are taken into the system, nature is unable to overcome them, and disease is the result. This can only happen in a close and ill-ventilated apartment, extreme dilution by fresh air renders them innocuous. Six ounces of alcohol will produce intoxication on a man if taken in full strength. Diluted with a gallon of water it would be innocuous. Hence the extreme importance of fresh air. Sunlight has a great effect upon the health, and, in fact, greater than is usually supposed, and is also a potent factor in the cure of disease, aside from its germ destroying properties. I refer to the actinic principles existing in sunlight, which is absolutely necessary to all forms of animate life, therefore all dwellings should be placed in such a position to admit as much as possible its life-preserving beams. Perhaps no greater truism was ever uttered than that of the Seneca Indian Chief, when requested to sit on a chair which the Indian commissioners said had been sent to him by his great Father in Washington. Standing erect, with flashing eye, and pointing toward the sun, he indignantly exclaimed: "My great father in Washington! The sun is my father, the earth is my mother, and upon her breast I will lie down." It is necessary that the lungs possess a certain amount of pure air at every inspiration, and it is the aim of ventilation to attain as near as possible this result. This is very difficult in apartments that are overcrowded, especially in the school-room, the church, or the theatre. Time will not permit me to enter into the various methods that have been devised to attain this end, but merely suggest that all windows should open from the top. This avoids a dangerous draft, and that as many times as possible through the day fresh air be freely and liberally admitted. The human system is continually throwing off by means of the skin and the lungs deleterious substances, from the lungs carbonic acid, from the skin perspiration. At each beat of the heart a large quantity of venous blood, containing a large proportion of carbonic acid, is thrown into the lungs, and the venous blood becomes arterial. In a short time a close and ill-ventilated room will become charged with carbonic acid, and as a result an undue proportion of this would be inhaled into the system and retained there. A mild symptom

of this would be headache and drowsiness. Its long continuance would result in death.

I, heretofore, touched upon the detention of pupils after hours, and I now would beg to call your attention to the *reprehensible custom of detention at recess*, at which time the room should be thoroughly cleared and ventilated. The methods of heating are of paramount importance. In winter ventilation is a more difficult matter than in warm months, and in all cases, where practicable, I would advise wood to constitute the staple article of fuel. Few animals and few plants can endure the dry gaseous atmosphere that is got from coal, hard coal especially, without injury. In all cases a pan should be kept full of water on the stove. The delicate membrane of the lung is highly susceptible to a dry and overheated atmosphere. Not a few cases of inflammation of the lungs are owing to this cause. The vocal Memnon that once stood at Thebes filled with music at the rising of the sun. Pliny wrote that among the marvels of his time he had heard the vocal Memnon speak. This music was but (produced by) the principle of ventilation. The beams of the morning sun warmed the inside air which, ascending through the hollow delfy for an outlet, murmured like the breeze, and in those by-gone days of credulous belief, charmed the listener to the thought that he heard a god.

It is absolutely necessary, for the maintenance of perfect health, that the local surroundings of all buildings should be kept scrupulously clean. This applies, locally, to the residence as well as general to the large city. The fearful ravages of plague in the middle ages were entirely owing to the disregard of cleanliness, and in our day the dirty and ill-drained city displays an alarming mortality on every epidemic. Man, as a free agent, possesses in his own hands the means for the prolongation of his life, and there is no reason why the natural age of humanity should not reach 80 or 100 years. The idea that Providence inflicts epidemics is most absurd, as all diseases arise from a disregard of the laws of health.

Not only should cleanliness be practiced, locally, but should, personally, be attended to, and this end is accomplished in no better way than a frequent repetition of the bath. The bath should never be below the temperature of the room. Bathing in very cold water possesses extreme danger, and while scarcely recommending the extra warm bath, I would remark, as far preferable to the cold, and that a medium temperature is the most judicious. Salt water in this climate is of doubtful benefit to the many, and a serious injury to not a few, being indulged in under states of the system totally unfit for its use, especially by the young. In this climate the most suitable place for a bath is in a house, and with water of a moderate temperature repeated at least twice a week. These remarks apply merely to sea-bathing in localities where the water is of so much lower temperature than the air. In fresh water, where the water approaches more nearly to the temperature of the surrounding atmosphere, these remarks will not apply. Bathing once a day, if possible, through the entire summer, is judicious. It is extremely imprudent, under any circumstances, to suddenly lower the temperature of the system, and it is also unwise to suddenly increase it, and avoidances of all risk can be obtained by observing the happy medium.

It is absolutely necessary that the pores of the skin be kept in such a position that they fulfil in full integrity their functions. This end is only attained by cleanliness. The skin carries off from the body a vast amount of deleterious material, so much so that if its action was totally restrained for a day or two death would ensue. Most of the most poisonous and virulent diseases are thrown off through this medium, and apart from this medium perspiration possesses the property of equalizing by evaporation the temperature of the system. In this climate flannels should be worn next the skin, both in summer and in winter. In a climate such as ours, ranging as it does over the extremes of temperature, great care should be taken that the clothing be adapted to the season. The old custom of