

answer I need hardly say that in order to a healthful action of the mind the bodily functions must be healthy. It was pleasant conceit of the old English poet that

"The soul's dark cottage, battered and decayed,  
Lies in new light through chinks that time has made;"

but we know that there is no truth in it. So far from new light reaching the soul through a decaying body, mind and body in this life grow and decline together, so far as any outward displays of intellect are concerned. So long as the brain remains pulpy the child exhibits only the faintest dawnings of mind; and when softening of the brain occurs the old man returns to a mental condition hardly less feeble than that of childhood. This has been remarked by all; but it is not so generally known that the varying states of our feelings, that our fluctuating spirits, that our gloom and our cheerfulness, that the cast, hue, and vigor of our thoughts, that our mental brightness and dullness depend upon the tone of our brains and their supply of arterial blood. If we would think to any purpose, if we would preserve serenity of temper, we must have regard to these conditions in the organ of the mind. Healthy blood is essential to the nutrition of the brain; nor is oxygen less indispensable to that metamorphosis of cerebral tissue upon which activity of mind depends.

It follows from all this that to study to advantage there must be, *first*, nutritious food for making blood; and *second*, fresh air for preserving the blood in a state of purity required by the brain. And the instincts of the young direct them unerringly to the means for securing both these conditions. Their appetites indicate the food proper for them; and their love of exercise secures them, if they have fair play, all the fresh air their blood requires. Let me add that these yearnings of children have a significance far deeper than has been dreamed of in our philosophy of education. However trivial it may seem to us, this love of sport has reference to the highest interests of the young—to their health, their growth, their intellectual strength, and even their lives. When children play, little as we may consider the rationale, it is to hasten and invigorate digestion, to accelerate the circulation of their blood, to imbibe larger streams of vital air, to expel tissues about to decay, and to send healthful currents through their veins.

"And when they are led, now and then,  
I And make a great racketing noise,"

still let us not ascribe it to the motions of the old Adam in them, but set it down to an instinct implanted in them for wise and beneficent ends. Sad is the case of the boy or girl who has no love of play, or who, having the desire, is denied the opportunity. Pitiable above most of the sights we are doomed to encounter in this world is a moping, pale, dejected child. Without exercise there can be no perfect growth, no healthy functions of body, no gayety of spirit, no full development of mind. To many a child in our schools playtime is the most profitable of all the school-hours.

But we have to deal with a much harder problem; namely, how to secure this vitalizing air to a class shut up in the school room. Upon its solution will depend very much of the progress of pupils in their studies. We have now a new danger to guard against, for while admitting fresh air into the room we may be setting up cold draughts, which are hardly less to be dreaded than foul air itself. Ventilation must be so arranged as to prevent this evil. Without comfort there can be no profitable study. We look in vain for good lessons from children, whether pinched with cold or stupefied by defiled air. This is one of the problems for the architect who plans our school-edifices, and he who successfully works it out is truly a public benefactor, entitled to a larger meed of gratitude than the agriculturist who shows how two blades of grass may be made to grow where only one grew before.

The heart, as I have been describing its functions, has probably appeared to many of you far other than the organ you have been accustomed to consider it; and it may be that I seem greatly to degrade it by this scientific view of its place in the animal economy. You would perhaps prefer still to regard it with the old metaphysicians and physiologists as the seat of the moral affections, as the organ from which love and all the tender feelings as well as all the stormy passions of the soul proceed. You may be unwilling to see it thrust down by science from its high

position and reduced to the office of a drudge in the system—made a mere hydraulic apparatus, a simple force-pump for the propulsion of the blood. And yet, when we look at it curiously in this aspect, is it not still a piece of mechanism to excite our wonder? Upon the due performance of its office depend all the other functions of the body. Life is involved in its unintermitted action. The functions of nearly every other organ of our bodies may be suspended for a time without injury and even with advantage. Most of them require indeed long intervals of repose between the periods of their activity. The stomach needs many hours of inaction after digesting a hearty meal. The external senses are wearied by long vigilance and are locked up in slumber during a third part of our lives. The muscles are fatigued by protracted motion and must be relaxed for hours in order to repair their wasted energy. The brain demands absolute rest from its work, and, if not relieved by sleep from the wear and tear to which mental effort subjects it, soon breaks down. But the heart is never exhausted by the task it has to perform, needs no relaxation of its labors. The first part of our complex machinery to show signs of life, it beats uninterruptedly on, both when we sleep and when we wake, through the longest life, and is the last of all our organs to die. During these years of ceaseless labor a simple arithmetic will show that it executes not less than three thousand million pulsations, and sends coursing through the innumerable arteries and veins at least half a million tons of blood. Wearing out its tough muscular fiber at every pulsation, it continually repairs the waste by the blood it circulates, and actually increases in size and in strength long after the other parts of the body have ceased to grow. And all this time the rhythm of its four cavities, if not disturbed by disease continues perfect, and the play of its delicate valves keeps up with mathematical precision to the last. Thus regarding the heart, will any one say that it has lost any of the attributes that excite our admiration by being transferred from the regions of poetry to the domain of a severe science?

## INTEMPERANCE.

J. OLIVER WILSON.

**B**YOND the sea there are countries whose inhabitants are frequently visited by the Simoon, a poisonous wind which, sweeping over the land, carries in its breath devastation and death alike to man and beasts. The great deserts that stretch away from these countries like silent peaceful oceans are white with the bones of the traveler, the work of this great destroyer, and will continue whitening until that day when the sandy sea shall forever unbind its victims. But far more dangerous and infinitely more destructive, is the great Simoon of alcoholic poison which to-day is sweeping our own great and beautiful land.

One has truly said: "The monster intemperance has, 'the world' for a home, 'the flesh' for a mother, and 'the devil,' for a father. He stands erect, a monster of fabulous proportions. He has no head, and cannot think. He has no heart, and cannot feel. He has no eyes, and cannot see. He has no ears, and cannot hear. He has only an instinct by which to plan, a passion by which to allure, a coil by which to bind, a fang with which to poison, and an infinite maw in which to consume his victims."

And so we, standing in the light of the nineteenth century and looking out upon the great ocean of time, heaving and surging with the desolation and ruin he has wrought, pronounce him a monster whose tyrannical sway has been most destructive and despotic, and which knows no parallel in the long catalogue of evils over which humanity stumbles into degradation and shame.

Unlike other kings his reign is a continuous one, not over a single race or nation, but over all kingdoms, republics and empires. He stretches out his mighty arm and the good, the bad, the wise, the ignorant, the great, the humble, the rich, the poor, the beautiful, alike bow beneath his sceptre. The great evil of war sweeps over a nation shaking it from centre to circumference, with the clash of arms and the roar of cannon, until the rivers and the seas run crimson with the blood of the fallen; but behind the dark cloud of war is ever the hand of peace. Intemperance with