

by the dentist it should be extracted at once, but never have a tooth extracted until it is necessary, as irregularities often result from this, and mastication is made defective, causing dyspepsia and malnutrition. Because the public is more careless with the teeth of children, the latter are the greatest sufferers from toothache and the other troubles just referred to. On the other hand, if temporary teeth are allowed to stay in too long, irregular teeth are sure to result. To tell just at which age each tooth should be extracted would make this article too technical, but if the dentist is visited as often as advocated here, he can tell when this should be done.

In closing, special stress must be laid on the importance of having the teeth regulated at an early age. If the teeth are irregular, a regulating device should be made and worn not later than at the age of 13 or 14. In this way the result may be accomplished with the minimum of effort. When the patient is older the teeth are more firmly in position, and an attempt to move them is far less likely to be perfectly successful.

THE INFLUENCE OF TRAINING ON MIND AND MORALS.

BY

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IT is impossible to make the simplest movement of any kind without the conscious or unconscious direction of the mind, so inextricably are the two bound up together; and from the earliest times physicians, both spiritual, mental, and physical, have known that the soul can be reached through the "subtle gateways of the body." This aspect of training, the importance, that is, of the cleanly health of the body, and its prompt and unrebelling obedience to the will, which is concerned with this question, has been alluded to before, and is dealt with more fully here.

Many people hardly know what real attention means: there is no better way to teach it than to make rapid and correct movements, which cannot be made without it. In the same way, also, these exercises give the habit of control. A man who has brought mind and body into the relation of master and willing servant, even in so elementary a matter as this, is going on the right road to teach himself control in the largest choices and difficulties. So, too, in other points of training: a man who has made himself able to drop smoking, or abstain from stimulants, or from certain sorts of food which he likes, but which his reason tells him are bad for him, has not improved his power of self-control in that point only, but has begun, at any rate, to form a habit of it; and the exercise of self-control, in one point only, will make his power of control stronger all

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round, in each and every case where his reason suggests control to him. It is here, as a tonic to the mind, that training of some sort, apart from all its other uses, is recommended to everybody; not training for some special event, which, as soon as the event has come off, is dropped, but a daily and continual observance of certain rules of health, a daily practice of exertion of will and obedience of body.

Again, the health of the body contributes directly to the power and strength of the mind. Work, which is irksome and comparatively badly done by a man who, for any cause, digestive or otherwise, is in only moderate health, will be done by the same man with zest and far better results if he is in good health. Also, the mind is able to accomplish not only better work but more work, when the whole system is not laid under a general tax to repair and make well any enfeebled or clogged organ. A single rusty joint, a badly fitting valve in an engine, makes the whole run less smoothly than it should, and also implies a waste of energy. Body and mind together, working in coöperation as they always must, are a close parallel to this. The one cannot possibly be at its best unless the other is in health. Rightful activity in the one stimulates activity in the other, just as artificial stimulants, such as spirits to the body, induce a mental activity in all respects like the physical one, temporary in character and followed by reaction. But the habit of briskness, of activity, of quick decision, is a thing fully as much mental as it is bodily; the two are inseparable, and, therefore, in the training of the body, the qualities which we should aim to acquire are those which are mentally desirable. One man's mind may, it is true, be naturally a much less fine instrument on its own level than his body, and much less easily trained, but the self-control, the alertness, the habit of speed, which such training as we have sketched out gives, will directly and inevitably affect his mind. It may still be slow and laborious in its workings, but it would otherwise have been slower. Also, whatever work it does it does better, because it is not clogged, hindered, and distracted by an unhealthy body.

Now this interweaving of mind and body is so complex, so closely knit, that it would perhaps be beyond the sphere of safety to say that the knitting together of the body and that within us which is the spring of moral, not intellectual qualities, the soul in fact, is closer than that of the mind and body. In any case, the interdependence of body on soul, of soul on body, and of both on the mind is practically complete, and this human trinity makes up man. There is no healthful habit of body which does not directly exercise a healthful influence on the soul, no harmful habit which does not hurt it. The body sins, and in its secret place the soul sickens. From the other side, also, a high moral standard infallibly leads the body to adopt healthy habits, a low moral standard suffers it to drift into physical crime and degradation.

Now city life, especially to any one who has been accustomed to

have a good deal of exercise without a modification of the food and stimulants he may take without hurt in a more active country life, is apt to put the body into a state which renders it particularly liable to all kinds of moral attack. The life is largely sedentary, and in consequence a great deal of physical vigor in young men, which would in the country be naturally and healthily expended in games and exercise for the one class, in manual labor for the other, remains unused, and, except to those of strong moral principle, is a dangerous thing. Again, without modification of diet to suit the circumstances, most people eat more stimulating food than they require, and, as a natural sequence, drink more stimulating and intoxicating drinks than are good for them. This, in itself, is another exciting cause to the passions. To exercise self-control under these circumstances is a laudable and a difficult thing; but a far simpler remedy lies to hand—namely, in not letting these circumstances exist, by deliberately taking less stimulant and deliberately stinting oneself in the matter of food, or giving a fair trial to the simpler foods spoken of before, which will be found to be far less exciting, though quite as nourishing. There are many men who are capable, as far as will power goes, of limiting themselves in this manner, who, if they do not limit themselves, become nearly helpless in the grip of their temperament. For a life of sensual indulgence, to put it on the lowest grounds, is bad for the body and the mind; sensual thought even becomes a habit as hard to get rid of as any morphia habit, and for many to try to rid themselves of it, while they continue to keep their bodies in a permanent state of excitability owing to overmuch food and stimulant, would be like attempting to cure the morphia habit, and yet continually going about with a vial of it in the pocket. And nothing, again putting the question on low grounds, is so bad for the nerves as to be incessantly desiring and dwelling in thought upon a certain thing, and incessantly refusing to gratify the desire. We do not, of course, mean that it would be better to gratify it, but that it is better to take hold of it by the root, not merely pinch the stem, and, as far as possible, get rid of the desire. For there are certain temptations, and impurity is one, which are not safe to fight consciously, since to approach them even in thought means to be seized, as it were, by the tentacles of some infernal cuttlefish. Do not school yourself to fight them; school yourself to run away from them. Interest yourself in other things, tire yourself physically, and, above all, do not indulge in stimulants of food and drink, which, however innocent they may be in themselves, predispose, by the very feeling of vigor they give, to things which are not innocent.

It is not only the suddenness and almost overwhelming force of physical temptation to some natures which constitutes their only danger, it is the gradual, hardly observable nature of the effect of such indulgence. For years, it is no use denying it, a man's mental and bodily health may continue, as far as one can see, absolutely

unimpaired by such excesses. The greatest harm is done by preachers, schoolmasters, and others who warn boys that such habits will lead to immediate decay of the mental and physical powers, and early death. The boy may be frightened for a time, but if this is the only preventive that keeps him back, his fright will wear off, and he will find by experience that no such effect, as was predicted, follows. He will, therefore, probably conclude that there is no ill-effect. He will, also, assuredly meet men who tell him that such practices are good for the health. A greater fallacy was never invented by the devil himself. There is no truth whatever in it. But what his teacher ought to have taught him was that such practices are the cause of mental and physical decay in thousands, though not immediately; that to yield to such temptations is for every one to become less able to resist them, and that by perfectly simple rules in the use of water, in the limiting of food especially, for instance, late in the evening the force of such temptations becomes infinitely less. Many people, no doubt, will say that this is a low ground on which to build up high motives. It is for that very reason, since it will appeal to those to whom high motives would not appeal, that it is so extremely useful. Thus it will appeal to many to know that at the age, let us say, of fifty, a man who has lived purely is, almost without exception, a stronger and more vigorous person, more capable of work and also of enjoyment than one who, in early manhood has, though possibly for a few months or weeks only, behaved like a mere "brute beast."

Too often, a young man gets away from his work, say at five or so, and what in heaven's name is the poor vigorous thing to do with the hours that divide him from his natural bedtime? * It is out of the question to expect that he should sit in his room and read a book; he has been at work all day; his body tingles for diversion. Out he goes, if he is human at all. In the general way there are two places open to him, the public-house or the streets. There his vigor finds further stimulus, or unhappily, its satisfaction. The sort of thing that is needed to work off the potential violence of the body is violent exercise. [The work of the Y. M. C. A., which is dealt with elsewhere, has been of incalculable benefit to our American youth in furnishing means of such exercise.—C. W.]

*"In the earliest times of the human race . . . to prompt people to take exercise meant only to induce them to do their daily work. In later times, however, and especially in the world of to-day as we know it, the multiplication of industries has placed many classes in such a position that exercise is something independent of, and has to be added on to, their daily employment. . . . The clerk at his desk and the merchant at his counter; the tailor in his crooked position, and the milliner at her seam; the printer setting up type from morning till night; the workers, or rather watchers, at manufactories . . . have one and all forgotten that their lower extremities are meant to carry them about. . . . Every departure (from the physically active life) may be an intellectual advance, but a muscular retrocession—a social gain, but a physical decline. Such being the case, it is evident that a great change either in the physique, or in the means of obtaining exercise so as to maintain that physique, must have taken place; and when we come to look at it we shall find that *but few of the employments of the present day carry with them a sufficiency of exercise.*"—Dr. James Cantlie, in "The Book of Health."

It is these evening hours which are the dangerous time. Purposeless loafing in the streets, though entertaining enough, is not sufficient for a vigorous young body, which has been pent all day at work; while loafing with purpose, we may say, is not good for anybody, yet it is to loafing with purpose that purposeless loafing naturally leads. Purposeless loafing is innocent enough, but, to use the morphia simile again, it is as if the sufferer from the morphia habit took a bottle of morphia and continued to finger it, a highly dangerous performance; and we do not believe that the class which loafs in the streets, anyhow the best of them, loaf because they prefer it to some suitable employment for their body, but because, too often, no suitable employment for their body is accessible to them.

It is towards this removal of causes that predispose towards ill-health in the moral sphere, ill-health as shown by a lack of energy, promptitude, power of work and endurance in the mind, that the training of the body, as we have attempted to outline it, is largely and unceasingly devoted. Health, as we understand it, the condition, that is to say, not of the ordinary man who considers he is "well enough," but that higher health which is the result of training the body to quickness, energy, and so to strength, which implies an obedience to the reason in matters of food and stimulants, directly benefits a man's moral and mental life. The body "is in subjection"; it obeys with less struggle the dictates of the non-material part of man, and it obtains in itself a greater resistive power to temptations of laziness or lust, just as it obtains a greater resistive power to its own purely physical enemies of cold or fatigue. It is in this respect, therefore (a far higher consideration than mere physical fitness), that we put forward a system of training that will be likely to ensure such results, and that consequently we regard the obedience to laws of bodily health, and means of physical fitness, as partaking of the nature of duty. And this further: it is clearly accepted as man's duty that he should keep his mind and his morals in the highest and best possible state; but seeing how intimately both these are knit with his body so that none can act without the other, the soul sinning through the body, the mind dictating every movement, is it reasonable to suppose that a corresponding duty is not laid on man with regard to the health of his body? Is it not, in fact, directly his duty to keep his body, as well as his soul and mind, in its highest and best possible state? No doubt compromises have often to be made; a man, in order to do his work, may be obliged to disregard certain rules which the health of his body requires should be kept. But saving this, there seems to us to be a clear duty with regard to physical health, quite apart from the advantage which physical health will bring to his mind and morals. This wonderful machine is a servant, no doubt, of the mind, but shall the master keep it, so to speak, in an insanitary attic, and pay no regard to its health? The compromises also, which we have just spoken of, will be rarer if the body is well, since it will

be more capable of bearing fatigue and unreasonable hours of work.

The simple, but unswerving principle on which morals are based, the highest development of the mind, the utmost health of the body: these things, and nothing short of them, are the results of ideal training.

WHAT PHYSICAL CULTURE HAS DONE FOR ONE MAN.

There has necessarily been a great deal of preaching of principles in this section of our work. A practical instance will show the truth and the sound basis upon which this preaching rests.—[C. W.]

AN interesting case, showing what physical culture can do for one, is that of Mr. Clarence Verrill, Yale '99, a son of Professor Addison E. Verrill of Yale.

As a child Verrill was so sickly, even puny, that all physicians consulted agreed there was little hope of his living to grow up. However, Verrill determined he would live, and scientifically thought out his own cure, which was, in brief: fresh air, exercises for heart, lungs, muscles, etc., and plain nourishing food.

He began his physical training at about the age of fourteen, starting with free gymnastics morning and night. These he did faithfully for one year, when he increased the work by using half-pound dumbbells, which he continued to use for two years. The next weights with which he exercised were two and a half pounds for a year, then increasing to five and six pounds, which from this time on he usually employed for general exercise.

Mr. Verrill was not a believer in the use of heavy weights in building up one's muscular system, being convinced that the perfect combination of "steel and india rubber" was the result of using light weights. No muscles were neglected—each exercise being carefully studied out to obtain the best results.

Mr. Verrill entered the Sheffield Scientific School at Yale at the age of sixteen, in the class of '97, but owing to ill health was obliged to leave college for a year. During this period he lived much in the open air and went into all kinds of athletics.

Upon his return to Yale in the autumn of 1897, he made it his habit to exercise at the gymnasium daily, and as a result of his work, when his strength tests were taken early in April, it was discovered that he had broken all college records, and was beyond question the strongest college student in America.

Dr. Seaver, who is an authority on anthropometry and physical examinations, said at the time, that he had never measured a more symmetrically or beautifully developed man than Verrill.

Mr. H. G. Watson, M. A., Assistant in Anthropometry at Yale, speaking of Verrill, in an article which appeared in a leading maga-