

How About Some Muscle?

By

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FOR a profession that has glorified the physical side of man from before 500 B.C. until, shall we say, A.D. 1915, the physical education literature of today is strangely silent about the more purely body-building type of objectives. From the time of Homer to shortly after the time of Thorndike, the emphasis will be found to have been on the physical—education *through* the physical surely, but also education and pure training of the physical, for its own sake as well as in Education's sacred name. Then came the leavening influence of Thorndike's psychology and of Dewey's philosophy, enlarging our concepts of how to educate, and as a profession we made real progress. But this progress was made at the expense of the old model. We did not overhaul it, but, following the leadership of Mr. Henry Ford, we traded in all of the old equipment on the new. Twenty-five centuries of good experience—as all who read history discerningly must agree—abandoned over-night in favor of a new equipage whose worth to the ultimate consumer, the child, was yet to be appraised!

AND why? Your guess is as good as mine. I think it was possibly a combination of three things. First, many physical educators had an inferiority complex. A few sensitive souls still have. We didn't quite belong to the educational fraternity; we were just "physical directors." The new educational emphasis gave us "face," and, exulting in our new importance, we forgot most of the fundamentals; we didn't want to be "strong."

Second, it was so easy to "educate" with a game book and a whistle. It saved time, preparation, and the mastering of a lot of difficult skills and the techniques of progression.

The third possibility is that the leaders of the new educational movement, carried away by enthusiasm for this valuable addition to our armamentarium, overstressed the new—as Luther Gulick was wont to do in pioneering a movement—and gave the impression to their pupils and to the readers of their papers and books that the educational aspect of physical education was *all* that really mattered. Whatever the reason, the result has been that when physical education went to college and added psychology, character education, mental hygiene, tests and measurements, and the new organization of principles to the curriculum, it quietly dumped most of its body-building emphasis into the educational garbage can and set it out on the curb.

Has this been justified? Let us examine the evidence. Ignoring the varsity teams who, we shall grant, get enough muscle building, let us consider the average pupil. I doubt if more than one-fifth of our physical

education classes in the schools of today get enough exercise to contribute materially to any significant organic stimulation. Widespread strength testing has shown that in whole cities there are scarcely 20 per cent of the pupils who have a normal amount of strength, measured by Rogers' Physical Fitness Index; and Rogers' norms for strength are quite moderate in their demands.

BUT is more muscle desirable? Let us marshal a few of the arguments.

1. In 1907 J. M. Tyler published *Growth and Education*, a book which was and is a milestone in physical education. In the first few chapters were assembled a galaxy of biological facts which have never been seriously disputed. Tyler showed that vigorous exercise of the great fundamental trunk and limb muscles is utterly essential during youth and young adulthood for the purpose of stimulating the normal growth and development, not only of the fundamental organ systems of the body, but of the brain and mind as well. And this exercise need—an inheritance from the remote past—is a need for more than pretty movements. What is needed is a great deal of oxidation within the body tissues. Tyler made clear the fact that an organism whose evolutionary development was dependent upon vast amounts of exercise could not function adequately on a semi-sedentary ration of activities.

2. The psychological literature of late years has spoken much of the fact of body-mind unity, but this same literature has usually gone on thinking and writing as though the school child was all mind. We in physical education, with our growing over-emphasis upon the educational aspect of physical education, are apt to fall into the same error. *Our organism is more body than mind*, and it is only through the adequate functioning of all of it that the most desirable functioning of even the brain occurs.

3. From the standpoint of mental hygiene, a number of studies in our own field, some of them unpublished, have shown that the physically undeveloped child and adult tend to develop inferiority feelings which grossly affect his social responses and his character and personality development. We need adequate bodies as well as play and recreation. While this is only a part of our mental hygiene problem, the physical educator should not forget that it is an important part and one which can be corrected fundamentally only by developing an adequate body. It cannot be eradicated simply by *understanding* the problem. "Facing reality" in this case means developing the muscles, attaining a better carriage, and in general developing and educating the *physical* self.

In considering the significance of physical strength, we develop an imaginary situation. Let us suppose that the one were to request you to wear, day and night, a well-fitting canvas jacket lined with lead shot which increased your weight 25 per cent. Your response would undoubtedly be something like the following: "Don't be absurd! Why, to burden myself with a load like that would result in my being utterly fatigued by early afternoon. I should have no energy for constructive work, and at night I should be too tired even for recreation. The added strain upon my heart would be harmful, and I would be so constantly fatigued, particularly during the latter part of the day, as to render myself more susceptible to minor infections, such as colds." And you would be right. However, the man who is 25 per cent overweight is constantly subject to just this strain. The same difficulty is encountered by an individual of a given normal weight who has only four-fifths of the normal amount of muscle. From the standpoint of fatigue, of inefficiency of movement, of susceptibility to minor infections, he finds himself in the same situation as the individual who is 25 per cent overweight; and this individual, be he school child or adult, does suffer some of the following handicaps:

a) *Fatigue, both acute and chronic.*—The under-muscled person tires easily. (Rogers has well shown that a certain type of endurance is almost perfectly correlated with strength relative to weight.) But this person is not only susceptible to occasional acute fatigue; this fatigue piles up in a normal life of activity. At the end of each week he finds himself almost sick—intoxicated with the accumulated poisons of a fatigued organism.

b) *Muscular inefficiency.*—Studies in the physiology of muscular work demonstrate that the efficiency of muscular contraction depends upon there being an optimum load on the muscle. Thus a muscle that is overloaded has a smaller work efficiency than one which is not loaded too heavily. The person of less than normal strength, in addition to his constant fatigue, is working always at a relatively lower level of efficiency than would have been the case had his strength been up to normal for his weight.

c) *Susceptibility to infections.*—It is the common experience of many people that their susceptibility to colds and like minor infections is greatest when they are most fatigued. This, for some reason, seems to be more true of continuous chronic fatigue than of moderate acute fatigue. Possibly it is because in almost all acute fatigue the person has recovered before the process of infection has proceeded far enough to be dangerous. It is a common observation that more colds result from mingling in crowds at the end of a week than under similar circumstances at the beginning of the week, when an individual is more rested. The under-muscled person is much more constantly in a condition in which he is susceptible to such infections than is the stronger person. This, of course, has nothing to do with specific immunities which seem to be dependent upon a chemical condition within the body.

d) *Functioning of organic systems.*—Tyler also estab-

lished the fact that an abundance of muscular exercise strengthens the day-by-day functioning of *all* of the organic systems. This is perhaps most easily understood in the relationship to the functioning of the heart. This organ, which is itself a muscle, is exercised and developed by being forced to exercise more strenuously in response to the vigorous exercise of the voluntary musculature. The individual whose muscular experience is constantly at a subnormal level has a heart that is as flabby as his arms and legs. In times of emergency, not so much the running for a street car as the fighting of pneumonia, the weaker heart is more apt to be unequal to the task than is the well developed heart. Adequate strength is good life insurance.

ALL of these facts seem to me to afford convincing evidence that we need better-developed muscular systems than the current literature in our profession is demanding. The argument frequently proposed by non-physical-education educators that since we are not all going to be truck drivers we do not need to be well developed is not, it seems to me, even intelligent. A young adult having to toss his body, weighing from 100 to 200 pounds, around an office, up and down stairs, or around a golf course, needs a normal musculature. Therefore, I should like to propose that as a profession we re-think the whole problem of our more purely *physical* objectives, and that we emphasize them more. I yield to no one in our profession in my belief in the educational importance of physical education when adequately organized and taught; the health education procedures are also of great importance. But the basis of all physical education—developmental, educational, corrective, or any other aspect of our field—is *the adequate training and development of the body itself*—that should be thought of as a fundamental prerequisite.

In recent years there has been a swing towards an emphasis upon adult education. The physical educator, on the whole, has not kept up with this movement. Anyone who takes the trouble to visit city turnvereins, or some of the business men's classes of Y.M.C.A.'s, and sees young sixty-year-old men playing fast volleyball or doing stunts on the apparatus with ease and grace and enjoyment—stunts that the majority of physical education teachers of today cannot do—or who sees fifty- and sixty-year-old Englishmen playing soccer or cricket or rowing, almost with the vigor and finish of youth, must realize that most middle and old age deterioration is a function of inactivity. Adults who forget to maintain that muscular development which is the prerequisite to a youthful old age pay the penalty by losing that youth; it is hard to lose one's youth and gain it back again, but it is relatively easy to keep it.

IT SEEMS to me that the time has come when we may be expected to retain more than one major objective at a time in our intellects—to keep hold on the good of the past while we add from the worth-while contributions of today. May we suggest that the best defense is a

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"Method unknown".....	3	"	"
When anchored:			
I am not conscious of whether or not my bow string "lines up".....	55	"	"
b) String lines up with left edge of bow.....	24	"	"
c) To the left of the bow.....	13	"	"
d) To the right of the bow.....	8	"	"
e) "Method unknown" less than.....	1	"	"
<i>Loose.</i>			
I loose to a regular tempo.....	20	"	"
I loose when I am ready.....	70	"	"
"No knowledge of my timing or rhythm".....	10	"	"
At the loose my fingers:			
a) Remain as nearly in position as possible.....	25	"	"
b) Move slightly back off the string.....	40	"	"
c) Move definitely back off the string.....	33	"	"
d) "Method unknown".....	2	"	"
<i>Breathing</i>			
1. I am conscious of a breathing rhythm in shooting.....	40	"	"
2. I am not conscious of any breathing rhythm in shooting.....	60	"	"
<i>H. Stance.</i>			
1. As I shoot:			
a) There is an equal amount of weight on both feet.....	88	"	"
b) There is more weight on my left foot.....	4	"	"
c) There is more weight on my right foot.....	8	"	"
2 As I shoot:			
a) My toes are on an even line.....	31	"	"
b) My left toe is slightly ahead of my right.....	44	"	"
c) My left toe is definitely ahead of my right.....	23	"	"
d) My right toe is ahead of my left.....	2	"	"
<i>I. General.</i>			
1. To what changes or improvements do you attribute the general rise of scores during the past ten years? Better tackle? Better arrows? Better instruction, etc? An overwhelming majority answered "Better tackle, especially arrows"			
2 Which of the following, in your opinion, should be the most instrumental in still further increasing archery scores in general—			
a) Improvement in tackle.....	19	"	per cent
b) Improvement in technique.....	71	"	"
c) Standardization of technique.....	5	"	"
d) Better instruction.....	55	"	"

As with no. 1 under *General*, almost all archers named two of the above factors, and a vast majority named "improvement in technique" first, with "better instruction" second.

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strong offense; and for the physical educator who feels inferior to someone who scorns the physical as he glorifies the Great American Intellect, it is suggested that he espouse the cause of body-mind integrated unity, fortify himself with the facts, and merrily conduct a major offensive that will place the feeling of inferiority back where it belongs, upon the physically feeble mental advocate who is simply compensating with much talk for his own feeling of physical inadequacy.

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