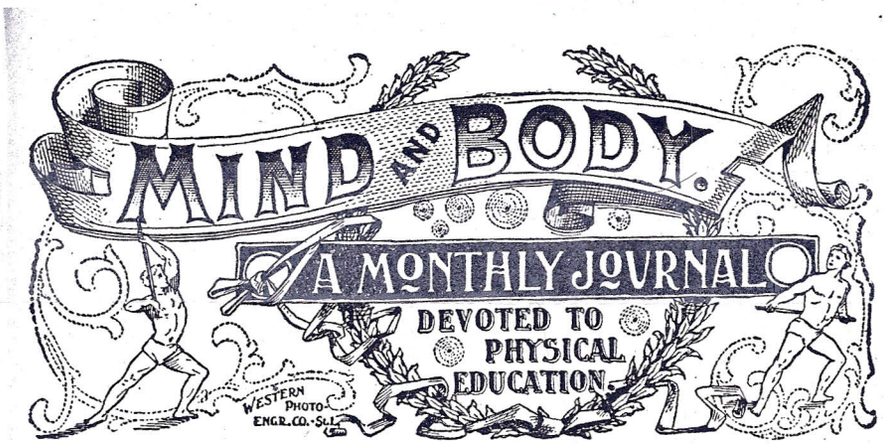

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THE GYMNASTIC TRAINING OF COLLEGE MEN—METHODS EMPLOYED IN THE UNIVERSITY OF TEXAS GYMNASIUM.

By F. HOMER CURTIS, B. S., Physical Director of the Gymnasium, University of Texas.

(From The Texas Medical News.)

IN acquainting the members of the medical profession with the work attempted in the State University gymnasium it will be well to state briefly the typical defects to be corrected in the students as we find them and the means to accomplish this end.

The two most noticeable defects are a lack of development, due to a state of general malnutrition and lack of exercise, and the prolapsed condition of the thorax, due to lack of training and muscular development. These two conditions are most frequently found together, each helping to increase the effect of the other, but we frequently find men with well nourished and well developed bodies, but whose chests are flat and whose carriage and poise of body is without dignity, power or character.

The general poor physical condition found is due to a number of causes, among which are excessive mental work at a period when the body is growing most rapidly; a corresponding lack of exercise during this period, when the rapid growth of all the tissues calls for the extra blood supply regularly brought to the muscles by exercise; bad habits of eating and of breathing; bad postures; lack of sleep and overwork.

The working brain requires a greater blood supply than when at rest, and in return the greater supply increases its development. But the repeated and prolonged periods of studies diminish the blood supply to other growing tissues, where a full supply is needed for their development quite as much as at the brain. The prolonged study also produces a congested condition of the cerebro-spinal system, which frequently causes a feeling of lassitude and physical fatigue, which makes the student less inclined to physical exertion than before, although the muscles have not been used enough to be tired. This lack of exercise reacts on the body through poor appetite, poor digestion and assimilation, and therefore poorly developed tissues.

The bad postures that are the results of this poor nutrition and lack of training are typified by the so-called "student stoop". This posture is by no means confined to the students, but frequently found among clerks, book-keepers, draughtsmen and others whose work keeps them confined behind counter, desk or drawing table. Among students, however, the condition is more noticeable on account of the large number of cases found, but the causes are the same in both instances. The causes are, fundamentally, a bad posture while reading or studying which goes uncorrected until it becomes habitual. This in turn owing to its restriction of the respiration and interference with the circulation, affects the nutrition of the entire body and therefore of the very muscles whose weakness and lack of development allow the bad posture to become habitual. The student almost invariably leans over the desk

or study table with the back bent, the chest depressed and the neck craned forward. Or else he slides down in his seat until his pelvis is horizontal, his back bent like a bow, the normal lumbar antero-posterior curve obliterated, and he is sitting on his spine instead on the tuberosities of the ischium.

The organs of the thorax and abdomen in accommodating themselves to these bad postures are retarded both in development and in function. The sunken condition of the chest prohibits deep respiration and induces the bad habit of shallow breathing. This habit not only retards the development of the lungs, but during all the period of mental labor the blood is receiving much less than the normal amount of oxygen and far less than should be supplied to a working organ, in this case the brain. In the abdomen, too, the organs instead of being properly supported are crushed and crowded downward, interfering with their own circulation and that of the intestines. This congested condition of the intestines and the portal circulation, together with the enfeabled peristaltic action due to continued pressure and flaccid abdominal walls, rapidly grows on the patient until it becomes so habitual as to be scarcely noticed. I have repeatedly discovered on questioning students that many did not consider themselves constipated if there was a movement of the bowels every other day or four or five times a week.

In their sluggish action of the intestines and liver and in the constant absorption by the blood of the fecal matter and gases from the intestines (the blood being so heavily laden with it that frequently I can smell it on their breath several feet away) we have a ready explanation of the impoverished condition of the blood and one of the most potent and fundamental reasons for the malnutrition. But in an article written for physicians I do not need to dwell upon the poisonous effects of constipation nor upon what state of health the muscles and organs must be in which are nourished by such a polluted blood stream. You meet the conditions too frequently.

The above mentioned faulty postures, lack of exercise, and the abnormal position and condition of the internal organs, form the background for the conditions which I find in so large a number of cases and which generally have their local expression in stomach and liver troubles, weak heart and lungs, and anemia.

Since we meet with comparatively few actual pathological cases (and these are referred to the Medical Director) our most important work is body-building. In this work we try to bring the student up to his normal healthy condition and then improve his development. This work is necessarily carried out in large classes, for nearly three hundred and sixty men attend the gymnasium at least twice a week. These classes are given a vigorous series of movements, some having a decidedly local effect, promoting nutrition in the several parts affected by them, and some are given more for the general improvement of the whole system. Among the latter are found exercises for strengthening the heart and blood vessels by rapidly increasing the circulation; developing the lungs by improving the respiration; and improving the eliminating power of the skin by producing an abundant sweat.

As most of the students come to the gymnasium directly from the class room, the exercises are so arranged that each of the large groups of muscles in the legs are thoroughly warmed up and exercised first, thus drawing large quantities of blood to them and relieving the cerebro-spinal congestion due the continual mental work. Then follow in order, series of deep breathing exercises; exercises of the head and neck, tending both to the development of the neck itself and the correction of its carriage and the poise of the chest. Exercises for straightening the antero-posterior cervical curve of the spine, which had become exaggerated during the study period, come next, and are followed by others for deepening and widening the chest and securing greater mobility of the ribs, expanding the lungs and increasing the thoracic aspiration. Then come groups of exercises for strenghtening the waist, back, sides and front, to give a firmer support to the abdominal viscera, increase peristalsis and the absorption of the intestines, increase the secretion of the glands, relieve the portal congestion and wake up things generally in that region. These exercises are followed by more vigorous groups designed to affect the body as a whole without special reference to their local action. This group includes running, jumping, tumbling and different forms of wrestling. It is followed by a series of breathing exercises which tend to reduce the heart and respiratory states to the normal and have a calming and restful effect. Each movement in the program is carefully selected and predetermined with regard to its direction, extent and duration, so that the work as a whole will be harmonious and produce the desired effect. At the conclusion of this program, which lasts about fifty minutes, each member of the class has had a good sweat, has had each part of the body exercised, and, while somewhat tired, yet does not have that fagged out feeling that comes from overwork, whether physical or mental. He is now ready to repair to the bath room, where eight large shower bath stalls, equipped with hot and cold water, await him. By the time he reaches the bath room the average student is feeling so good that he cannot restrain the primitive impulse to yell and whoop. And if this feeling of elation is any indication of the benefit derived from the work no one who has stood in the bath room door for a few moments will have any doubts on the subject thereafter.

The above is a brief description of the regular body-building class work that is required twice a week of all who use the gymnasium. But in addition to each man, during his physical examination by the Director, has been given a series of exercises especially designed to develop his weak points and correct his bad postures. The special exercises he is directed to take each night and morning aud before the class work on his regular gymnasium days. In addition he is given advice regarding his diet, sleep and work, and the Director tries to keep track of his personal improvement as far as he can with so large a body of men.

It will be noticed that in the above description of the work no mention has been made of the educational side of gymnastics. This very important branch is especially important to our students as they come to us without any previous physical training in the high schools.

And yet it cannot be successfully taken up on account of the confusion due to our cramped and crowded quarters. The overcrowded condition of the gymnasium also prevents taking up advanced work on the apparatus with the more experienced men, the time of the Director and his assistant being almost entirely taken up in teaching the elementary work of the freshmen year. To attempt to handle over six hundred men each week in our little room naturally limits the nature of the work to the most elementary body-building and corrective exercises. But we hope it will not be long before the legislature will see the serious disadvantages under which we labor, and, recognizing the importance of the work, will give us an appropriation for a new gymnasium in which we can expand and develop those imporcant phases of the work that we are now perforce obliged to omit.

EXTRACTS FROM EUROPEAN JOURNALS ON PHYSICAL TRAINING.

By CARL L. SCHRADER.

ENGLISH CHAMPIONSHIP PERFORMANCES.

ON Saturday, July 5, 1902, the Amateur Athletic Association held its meet on the Stamford Bridge track. This competition can in no way be compared to our German gymnastic festivals although this is not only the most important sport meet of England, but of the world at large. America has been sending delegates for a number of years, and this year Hungary had several competitors in the field.

The exercises in themselves, the previous training for several months, in fact, everything differs very markedly from our plain popular contests. With us hundreds of men compete, here many events were contested by only six, five, or even two men. It is true that the performances of the few surpass those of our masses, but for practical intrinsic utility and for the benefit of the masses of the people the question certainly is: "What is of greater value to our people, a dozen record-breakers after the English type, or our masses of victors at our festivals?"

But our festivals are not to be popular as some of our learned judges of German gymnastics claim. Only four thousand spectators had gathered in the metropolis of London to watch these performances. This is a ridiculous small figure compared with the enormous masses that viewed the gymastic festivals at Hamburg and Munich. Yet there are some people persistingly pointing out to us the advantage of English sport over our simple evening's work in a Turnverein.

THE MARATHON RACE FROM CONFLANS TO PARIS (40 km) took place July 6, with one-hundred twenty-nine participants. The Englishman, Lew Hurst, who had won the race three different times was defeated this time by a Frenchman named Charbonnel. The time absorbed was two hours, fifty-two minutes and five seconds, while in the year 1900 Hurst won in two hours, twenty-six minutes, forty-seven and two-fifths seconds.