

It is therefore necessary to adapt our athletics to the conditions of this period, rather than to follow the line of work taken up by the colleges; choosing such activities as will aid in the development of the body without working any injury. It is a period of rapid growth in bone tissue, when the bony system is in a plastic condition; when postures of different kinds leave their impress upon the bony structure; when continued activity of one kind causes an excess of development of one set of muscles over their antagonists, thus permitting of a permanent twist, producing absorption on one side of the bone and permitting excessive growth on the other; when excessive work, destroying the tone of certain groups of muscles, permits their antagonists to pull the body into abnormal postures; when the bones are not completely ossified and there is danger of fractures at the epiphyses.

Again, it is the time when the muscular system is developing and when, if at all, the muscle cells are to receive their full development. Our activities at this period should be such as to use all the fibers of a muscle, all the muscles of a group, and all the groups of muscles in their proper proportion, and this without undue strain. This can only be accomplished when all the fibers of a muscle are being used at the same time. Consequently such exercises as demand a constant repetition by a few fibers do not give us the development that we should have at this time of life; such exercises, for instance, as the distance run, where the constant endeavor is to minimize the number of muscles used to accomplish the results. The athletic activities of this period should be of such a kind as to produce a muscular development of the whole body. Such exercises should take in the upper part of the body as well as the lower extremities. And it is a regrettable fact that there are very few games and forms of athletics to-day that give us development of the chest and upper extremities. Consequently we have to depend upon more or less formal exercises to give us this development. A few years ago an experiment was tried when the freshmen class of the University of Kansas were given, as a part of their regular class work, soccer for one half-term and basket ball for the next half-term. At the end of this period, upon reëxamination, it was found that the lower extremities had increased to a considerable extent, while there was little or no advance in the chest and upper extremities. The same class was then given work on the ladders, parallel bars and tumbling for one term, and a marked change was shown in the proportion of development of the upper and lower extremities. From this experiment it was thought advisable to use other means of development than simply that of the ordinary games, yet the tendency of our high school athletics is to specialize in games at an early age, and this necessarily in events that give little muscular development. The tendency is to follow this line

out in the college, thus neglecting to get the best development for college athletics, much less for the future life of the individual. It is a fairly well-authenticated fact that the high school athlete who has made a specialty of the long-distance runs seldom makes good in his university course in the same line of athletics. Whereas the individual who has developed himself by those exercises that demand more strength of limb and permit of more gradual development of the heart, such as hare and hounds or cross-country running, are prepared to go ahead in distance running.

Out of forty point winners of record holders in high schools in the interscholastic meets of the last ten years, thirteen did not attend college, seventeen failed to make point winners in college and ten made good. Of the seventeen who attended college but failed to make good, ten were runners, four shot putters and three hurdlers. Of the ten who made good, one was a distance runner who failed to better his high school record; one was a sprinter who was out of athletics on account of a torn muscle; one was a broad jumper who kept on adding to his distance; one was a high jumper who did four inches better in college than in high school; six were hurdlers and all-round athletes. This is merely suggestive of the results of all-round athletics for high school, at least those which demand strength and skill rather than endurance without strength.

The second factor peculiar to the development of this period is the growth of the nervous system with its reflexes and automatisms.

This is the period of life when reflexes are most easily acquired and most permanently established. It is the period that is peculiarly suitable for the development of individual skill. The activities, therefore, of this period should aim at the development of skill and the establishing of proper reflexes. For this reason, therefore, the athletic events of the high school age should be individualistic, rather than sacrificial. They should be such that the competitor should be thrown upon his own responsibility, and such that the honors which he acquires should depend upon the extent to which he has perfected his own physical ability. The athletic events which most nearly meet these requirements are the field sports, such as the high and broad jump, the pole vault, the shot put and discus, the hurdles and sprints. The event par excellence for this period is tumbling, which uses all the body, giving due emphasis to the extensor groups of muscles, demands individual skill, and gives a chance for development of the other attributes required at this time.

The third factor is one which we are apt to deprecate in the life of the youth, but which has an essential bearing on the