

zine at this time, says, a great fascination to those interested in physical training lies in "the wonderful feats of Verrill, who was in his younger days a delicate child, but by constant training for the sake of health has developed into a man of muscle and strength, and is to-day a model of the Greek ideal and the strongest college student in America."

Although Mr. Verrill did not believe in the use of heavy weights for the development of his muscles, after they were developed much of his work was done with them, fifty and hundred pound bells being chiefly used.

Mr. Verrill has always made it a point to live as much as possible out of doors. During three years he rode his bicycle over 30,000 miles. While making no claim to excel in any one line of athletics, Verrill is a good all-round athlete. He was captain of the baseball team at his preparatory school (Norwich Academy), played on the football eleven, and won several prizes in track athletics, breaking the school record in the broad jump.

During his college years, he rowed in his class crew in freshman year, and while taking a post-graduate course, rowed substitute on the 1904 crew. He has won several medals in four-mile swimming races, and is locally well known as a boxer, fencer, and wrestler. Among his "stunts" are the front and back levers on the horizontal-bar, the pull up with one hand several times in succession, and the crucifix on the rings.

Contrary to the practice of most college athletes, Verrill has never given up training, and his development for a man is quite as remarkable, proportionately, as when at the age of nineteen he broke all previous college strength test records.

A GLANCE AT THE HISTORY OF PHYSICAL EDUCATION IN THE UNITED STATES.

BY

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THE rise of physical education in the United States has been slow and fitful. Its history, which presents a general parallelism to the course of the development of physical education in Europe, may be divided into periods as follows.

1. The period from the War of the Revolution to 1825. The claims of physical training received favorable mention from several critics

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of existing education in the earlier part of this period. Toward its close the imagination of educational reformers was actively stimulated by European experiments and examples.

2. The period from 1825 to 1830, which was marked by active discussion and enthusiastic but short-lived experiments on lines suggested by foreign experience.

3. The period from 1830 to 1860, a period of reaction and quiescence, for the most part, though a renewal of interest became manifest towards its close.

4. The period from 1860 to 1880. In this period the present widespread athletic movement had its beginning, and a revival of interest in gymnastics took place, particularly in colleges and preparatory schools.

5. The period from 1880 till the present time, which has been signalized by active growth and diversified expansion in all departments of physical training. More has been accomplished in this period than in all the preceding periods taken together toward securing a place for physical training in the curriculum of the elementary schools, and unexampled activity has been shown in the erection of club, school, and college gymnasia and the establishment of athletic fields and city playgrounds. One of the most characteristic and praiseworthy features of this period has been the establishment of schools and courses for the normal training of teachers of gymnastics.

The prehistoric period of physical training in America, or the period in which writers and reformers were satisfied with recommending bodily exercises as worthy of a place in education, lasted into the first quarter of the nineteenth century. Even before 1800 influential and outspoken critics of what then passed for liberal education arose. Foremost among them were Benjamin Franklin, Benjamin Rush, both of Philadelphia, and both signers of the Declaration of Independence; Thomas Jefferson, its author, and Noah Webster, the lexicographer.

Dr. Franklin in 1743 drew up a scheme for the education of youth in Pennsylvania. He planned for the establishment of an academy, "if not in the town, not many miles from it; the situation high and dry, and, if it may be, not far from a river, having a garden, orchard, meadow, and a field or two." He recommended "that the boarding scholars diet together, plainly, temperately, and frugally," and "that to keep them in health, and to strengthen and render active their bodies, they be frequently exercised in running, leaping, wrestling, and swimming."

Thomas Jefferson in 1785, in a letter to a young man concerning his reading and studies, advised him to give two hours "every day to exercise, for health must not be sacrificed to learning; a strong body makes the mind strong." He expressed a preference for gunning and walking. "Games played with the ball and others of that nature are

too violent for the body and stamp no character on the mind." In 1818, in his draft of a plan for a university in Virginia, he says: "We have proposed no formal provision for the gymnastics of the school, although a proper object of attention for every institution for youth. . . . The manual exercises, military maneuvers, and tactics generally should be the frequent exercises of the students in their hours of recreation. . . . Needing no regular incorporation with the institution, they may be left to accessory teachers, who will be paid by the individuals employing them, the university only providing proper apartments for their exercise."

Noah Webster seems to have been the first American of note to propose the institution of a college course of physical training. In an "Address to yung gentlemen," dated Hartford, January, 1790, he says it should be "the buzziness of yung persons to assist nature and strengthen the growing frame by athletic exercizes. . . . When it is not the lot of a yung person to labor in agriculture or the mekanic arts, some laborious amusement should daily be pursued az a substitute, and none iz preferable to fencing. A fencing skool iz, perhaps, az necessary an institution in a college az a professorship of mathematics." He further recommends running, football, quoits, and dancing as suited to the needs of sedentary persons.

Dr. Rush, in an essay "On the amusements and punishments proper for schools," dated August, 1790, proposed that "the amusements of our youth shall consist of such exercises as will be most subservient to their future employments in life." The amusements he favored were "agricultural and mechanical employments," and he notes with approval that the Methodists in their college in Maryland "have wisely banished every species of play."

Quite naturally the most comprehensive schemes proposed for the physical education of American youth were of a military character. In January, 1790, President Washington transmitted to the first Senate of the United States a report from General Knox, the Secretary of War, recommending the enrollment and military training of all men between the ages of 18 and 60. His plan, which failed of adoption, called for the formation of "annual camps of discipline" in each State. In these camps "the advanced corps," composed of the "youth of eighteen, nineteen, and twenty years of age," was to receive its schooling in the art of war. It was provided that "no amusements should be admitted in camp but those which correspond with war."

In 1817, in response to a suggestion from President Madison, a report was made to Congress upon the reorganization of the militia, in which it was recommended "that a corps of military instructors should be formed to attend to the gymnastic and elementary part of instruction in every school in the United States, whilst the more scientific part of the art of war should be communicated by professors of tactics to be established in all the higher seminaries." This scheme did not receive the sanction of law, either in 1817 or in 1819,

when it was brought forward again. The credit for the first considerable successes in combining physical with mental training in America should be awarded to the United States Military Academy at West Point and to certain schools modelled on it while it was still young. Physical training at West Point has a continuous history of nearly ninety years, since the administration of Major Sylvanus Thayer as superintendent, to whose shaping influence the West Point course of instruction owes its most salient characteristics.

In 1818 Captain Alden Partridge, Thayer's immediate predecessor at West Point, resigned from the United States Army, apparently for the purpose of attempting to reform the superior education of the country, whose defects, including an utter neglect of physical education, he vigorously criticised in his well-known "Lecture on Education." In 1820 Captain Partridge opened the "American Literary, Scientific, and Military Academy" at Norwich, Vt. In 1825, on the eve of his departure to Middletown, in Connecticut, where he started a similar seminary, he issued a card in which he claimed that at Norwich, his plan of "connecting mental improvement with a regular course of bodily exercises and the full development of the physical powers" had succeeded beyond his most sanguine expectations. Captain Partridge was directly concerned in the establishment or rehabilitation of no less than six military academies, two of which were opened in 1853, the year of his death. It does not appear that the example of the military academies had any appreciable effect upon the public school system of instruction in any city or State of the Union. During the civil war military drill became popular as a means of physical education for boys in private schools and high schools. . . .

Jefferson and Rush commended the use of tools as a form of exercise. Rush also favored gardening and agriculture as means of directing and training the rising generation. In accordance with the prevalence of such notions several farm, manual labor, and Fellenberg schools were started in various parts of the country prior to 1825.

In the early years of our second period a widespread interest in educational reform arose. In 1825 and 1826 physical education became a matter of almost epidemic interest in New England. Boston in particular was affected. The outburst was owing, in large measure, to contagion imported from abroad by exiles seeking asylum and employment; by scholars returning from foreign universities; by teachers fresh from pilgrimages to the wonder-working shrines of the new educational cult in Great Britain and on the Continent. Glowing accounts were multiplied by voice and pen of the revival of gymnastics in Europe, particularly in Germany, Switzerland, France, and England. At the same time physical education was vaguely conceived by many writers and lecturers as including pretty much everything that pertains to personal hygiene from the cradle to the grave.

Physical education fired the imagination of reformers for a time, but so did monitorial instruction, manual training, vegetarianism, and phrenology.

The Round Hill School, established at Northampton, Mass., in 1823, and the high school, founded in New York City in 1825 by Dr. John Griscom, each introduced many features that were novelties in the education of American boys, but their most striking innovations were copied from Lancastrian, Fellenbergian, or Pestalozzian schools in Europe. In both schools physical training was accorded a place in such wise as to fix the attention and stimulate imitation by a host of pedagogical adventurers. Although a rude attempt at gymnastic instruction was made in the Monitorial School for Girls in Boston, in the spring of 1825, the claim of Messrs. Cogswell and Bancroft, of Round Hill, that they "were the first in the new continent to connect gymnastics with a purely literary establishment" appears to be a valid one. The Round Hill gymnasium was opened in 1825. It was a "turnplatz" or outdoor gymnasium, laid out, fitted, and managed in accordance with the Jahn system of "turning." Dr. Charles Beck, the "instructor in Latin and gymnastics" at Round Hill, where gymnastics flourished for some years, had been a pupil of Jahn's, it is said.

Harvard College started the first American college gymnasium in one of its dining halls in March, 1826, and later in the same season a variety of gymnastic machines were put up in the playground known as the "Delta." Dr. Follen, an instructor in German and a German exile, who was familiar with the Jahn "turning," was the instructor and leader in gymnastics. The Boston Gymnasium, opened in the Washington Gardens, October 3, 1826, with Dr. Follen as its principal instructor, seems to have been the first public gymnasium of any note in the United States. Dr. Francis Lieber, who was warmly recommended by Father Jahn, succeeded Dr. Follen in 1827, Jahn himself having declined the invitation from the managers to assume charge of it. The patrons of the gymnasium, about 200 in number at its opening, rose to 400 in the first twelve-month, but dwindled to 4 in the second, it is said. A contemporary observer declared "no talent could keep the gymnasium alive after the novelty had ceased, and some of the gymnasts had been caricatured in the printshops." Gymnastic grounds were established at Yale in 1826, and at Amherst, Brown, and Williams in 1827, and fully a dozen schools, mostly in New England and New York, proffered to follow the example set by Round Hill and Harvard. Beck, Lieber, and Follen became college professors; the aims of gymnastics were not fully grasped, competent instructors were lacking, no one knew how to produce them, and so the whole movement lapsed into neglect and forgetfulness within five years of its beginning.

Between 1830 and 1860 there was no general or extensive revival of interest in gymnastics, and athletic sports led a feeble and incon-

spicuous existence; but a crusade for popularizing the doctrines of physiology and hygiene set in which served to perpetuate the essential spirit of the period 1825-1830 and to prepare the way for the gymnastic revival that occurred just before the war broke out. This crusade, which had its beginnings at least as early as 1825, was greatly stimulated by the books and lectures of the phrenologists Spürzheim and George Combe, who aroused much interest among teachers, parents, and even medical men in the claims of their pseudo-science as the foundation of a natural and health-giving system of education. Through the multiplication of popular manuals of physiology, which usually contained much hortatory matter on physical education and sometimes set forth rules for gymnastic and "calisthenic" exercise, the general public came to entertain the notion that serviceable and disciplined bodies were much to be desired and that some sort of school machinery ought to be provided for the purpose of securing them. Soon after the collapse of the gymnastic movement a considerable party, including many benevolent and influential persons, arose which favored manual labor in preference to gymnastics. Between 1829 and 1835 very many enthusiastic attempts were made throughout the Atlantic and the then Western States to provide college and seminary students with facilities for gaining health, amusement, and money by means of agricultural and mechanical labor. The movement did not lead to conspicuously encouraging educational or pecuniary results.

This period was signalized by an unexampled interest in elementary education, which resulted in the rapid multiplication of common schools in the newer parts of the country and in radical improvement, as respects their organization and administration, of the public schools of the Eastern and Middle States. The educational literature of the time teems with articles, resolutions, and reports of discussions relating to physical education in the sense of personal and school hygiene—witness *Barnard's Journal*, the *Proceedings of the American Institute of Instruction*, the reports of Horace Mann, and a considerable list of text-books of physiology and manuals of calisthenics, etc. Both in the field of discussion and authorship, teachers as well as physicians played an active part. Hitherto the interest of teachers in physical education had been rather languid and vague.

While discussion was still rife in the United States, Dr. E. Ryerson, chief superintendent of schools in Upper Canada, supplemented his recommendation of gymnastics (contained in his report of 1846, by issuing a semi-official manual of free and apparatus gymnastics, and promised governmental aid toward the purchase of apparatus for use in the public schools. When in 1852, the new normal school for Upper Canada was opened, a gymnasium, in charge of "a master of the art of gymnastics," formed a part of its equipment. This was a year before the Boston school committee enacted the following rule: "The masters, ushers, and teachers in the grammar and writing schools

shall so arrange the daily course of exercises in their respective classes that every scholar shall have daily, in the forenoon and the afternoon, some kind of physical or gymnastic exercise." Probably this rule was passed in deference to views expressed by Mr. Nathan Bishop, first superintendent of schools in Boston, in his first and second reports. In his second report, that of 1852, Mr. Bishop declares that "every plan of classification in which the children have not frequent opportunities for practising physical exercises suited to their tender ages must be essentially defective," and he goes on to describe, in general terms, what he considered "a well-arranged series of exercises to call the muscles of the chest and limbs into healthful play." There is reason for thinking that Mr. Bishop had been instrumental in 1842 in promoting free gymnastics in the public schools of Providence, R. I., where he was then superintendent of schools. Mr. Bishop, it may be remarked in passing, was the first man in the country to be appointed a superintendent of schools.

After the failure of the revolutionary attempts of 1848 in Germany, there was a large influx of German Liberals into this country. Wherever the German immigrants settled in numbers "turnvereins" quickly sprang up. Thus a new factor, destined in later years to exercise a large influence in the development of American physical training, was introduced. In the North American "Turnerbund," which for over half a century has been the largest, most widespread, and efficient gymnastic association in the country, we have a genuine and vigorous offshoot from the German stock, but American educationists practically ignored its existence for more than a generation.

We have abundant evidence that there was a new and increasing interest in gymnastic and athletic forms of exercise in the latter half of the decade ending in 1860. Such evidence is to be found in efforts to raise funds for the building of school and college gymnasias, in the increased addiction of collegians and others to rowing and ball matches, in the instant popularity accorded the "Tom Brown" books, and in the prominence given to topics relating to physical education in general and school gymnastics in particular by speakers at teachers' conventions, by the conductors of educational journals, and by superintendents of public schools.

The time was ripe for a new movement, and in 1860 it broke out. Diocletian Lewis, usually called "Dr. Dio Lewis," is popularly considered a sort of gymnastical Peter the Hermit, to whose preachings and teachings the crusade of the new gymnastics was chiefly due. Most certainly he was an extremely active, fluent, and conspicuous evangelist; but his main service, as regards gymnastics, lay in the assiduity and shrewdness with which he raked together the embers and fanned the flames that had been kindled by others. It is evident that the gymnastic revival of 1860 grew out of the movement for disseminating knowledge of the laws of health and the consequent desire to have them effectually applied in the management of the

public schools. The gymnastic revival may be said to date from the meeting of the American Institute of Instruction in Boston, in August, 1860, at which Dio Lewis, who had recently established a gymnasium in the city, won a signal triumph for his "new gymnastics," which were unanimously pronounced "eminently worthy of general introduction into all our schools and into general use." Dio Lewis was singularly adapted, by reason of his energy and enthusiasm, and his gifts as a lecturer and writer, to command popular attention and create a following.

For some years before his advent in Boston, he had travelled extensively in the Southern and Western States as a week-day lecturer on physiology and hygiene and as a Sunday orator on temperance. Moreover, he had acquired some familiarity with German gymnastics, and had unbounded confidence in himself as an adapter of old, and an inventor of new, forms of exercise. His doctrines and methods, which were novelties and seemed original to most of his followers and imitators, spread rapidly over the country, and, if certain eulogists of his system are to be credited, even into "Europe, Asia, and Africa." Teachers and school managers, particularly in New England, showed unprecedented interest for a time in the "new gymnastics," which seemed destined soon to form a part of the curriculum of the public schools of the more progressive cities of the country, as well as in a multitude of private institutions. For instance, the school board of Cincinnati in 1861, and that of Boston in 1864, formally adopted schemes looking to the general introduction of instruction in gymnastics into their public schools; but these schemes, and most others like them, soon proved illusory and impracticable owing to a variety of reasons that it would be tedious to recount here. In Boston, where a special committee of the school board in 1860 recommended the adoption of the "Ling free gymnastics," vocal culture and military drill obtained the upper hand.

Dio Lewis achieved praiseworthy results by convincing the public of the utility of "light gymnastics;" *i. e.*, exercises with hand apparatus and by popularizing school and home gymnastics for children of both sexes. Possibly his most considerable contribution to the cause of physical education was the establishment in 1861 of the Boston Normal Institute for Physical Education, which he "presumed to be the first ever established to educate guides in physical culture." That was a presumptuous statement, inasmuch as the Prussian Government had maintained a normal school of gymnastics in Berlin since 1851, the Royal Saxon Normal School for Teachers of Gymnastics, in Dresden, had existed since 1850, and the Royal Central Gymnastic Institute, of Stockholm, dated from 1814. The Boston Normal Institute had two terms a year, of ten weeks each, and in the seven years of its continuance 421 persons were graduated from it.

The civil war checked educational reform, and the interest excited by the gymnastic revival soon spent its force or was transferred to

military forms of drill and exercise. In the year 1860 the colleges of Harvard, Yale, and Amherst erected gymnasium buildings, but their example aroused but little emulation in other colleges until after the close of the war. Amherst College, in 1860, established a department of hygiene and physical education. Dr. Edward Hitchcock, Sr., served continuously as professorial head of the department since 1861. He introduced a system of periodical physical measurements which served to excite the interest of the students and as a criterion of their progress in growth. The main feature of the Amherst system of physical education was, and is still, a memorized musical drill with light dumbbells and marching exercises. Prior to 1880 Amherst's example in making gymnastics a compulsory part of college work had but little effect upon the other colleges of the country.

The building of college gymnasia was resumed after the close of the war, when a large contingent of young men who had been subjected to strenuous physical training in the army entered the preparatory schools and colleges. The influence exerted by this contingent in reviving and developing an interest in physical training was far more potent in the department of athletics than in that of gymnastics. Baseball and rowing, followed by football, developed rapidly and led to the multiplication of intercollegiate contests. The inadequacy of the facilities afforded by the older gymnasia for the indoor training of crews, teams, and individual aspirants for athletic honors had much to do with inaugurating a new era of gymnasium building and with improving the organization and conduct of the departments of "physical culture" in the leading colleges for both sexes, and indirectly aroused an imitative spirit in some preparatory schools. This era opened in 1879-80 with the completion of the Hemenway Gymnasium at Harvard University. This gymnasium, for whose erection and equipment Mr. Augustus Hemenway of Boston, a graduate of Harvard in 1876, had given the sum of \$115,000, surpassed in size, magnificence, and convenience any of the gymnasia then to be found in the country.

Since 1880 millions of dollars have been spent on new gymnasia, most of which have been modelled more or less closely upon the Hemenway Gymnasium. To Dr. D. A. Sargent, the director of the Hemenway Gymnasium since its opening, we owe the invention of the system of "developing gymnastics" which bears his name, and has been adopted very generally in the gymnasia of the colleges, the Young Men's Christian Associations, and the athletic clubs of the country. . . .

The completion of the Hemenway Gymnasium and the induction of Dr. Sargent as its director in 1879 gave a great impetus to the improvement of existing gymnasia and to the erection of new ones, while the rapid spread of the Sargent system of developing exercises led to a general reform in the organization and management of the department of physical education in very many colleges and fitting

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schools for both sexes and in those belonging to the Young Men's Christian Associations. The organization of athletic clubs, having elaborate and costly buildings and extensive playing fields, soon became the fashion. At present athletic fields are considered quite as essential as gymnasia in the collegiate and scholastic world. The growing demand for municipal playgrounds, bath houses, and gymnasia is a characteristic and hopeful sign of the times. . . .

Quite naturally, athletics constitute the most popular and obtrusive branch of physical training, and the athletic movement possesses greater power and volume than any of the allied movements which have been revived or originated since 1860. The American gymnasium is a semi-original creation that has been devised by the American architect to meet the expressed or fancied needs of the American athlete. All things considered, the athletic clubs, whose rapid increase in numbers has been one of the most notable features of the recent history of physical training, constitute the consummate and peculiar product of the athletic movement. There is nothing quite like them outside of America. They have done much toward developing the insensate spirit of rivalry, bordering on professionalism, which has wrought such mischief in school and college athletics, but comparatively little toward developing the educational side of physical training.

It is not my purpose to disparage athletic sports, which, when wisely regulated, afford invaluable means of mental, moral, and physical training for boys and young men, but the element of display and competition is so inseparable from athletic aims and methods, and proficiency in athletic specialties demands so much time and thought and requires such costly appliances as to preclude the general adoption of athletic sports as the principal means of securing the hygienic and educational ends of physical training for the mass of the school population, especially in urban districts.

Gymnastics, if rationally ordered and properly taught during the early years of school life, afford the best preparation that an aspirant for athletic honors can have. Aside from the question of expense, there is no good reason for prolonging purely gymnastic drill to the exclusion of the higher forms of gymnastics and of outdoor sports after a pupil reaches the age of 15 years. When the managers of our high and preparatory schools shall have learned their business as regards bodily training, they will, I believe, institute courses of instruction in gymnastics analogous to their elementary courses in languages and mathematics, so that their pupils shall be prepared to choose their athletic and gymnastic electives in quite the same way that they now choose their elective studies when the opportunity offers. When the schools do their duty in the premises, the colleges can give up the kindergarten and grammar school styles of physical education, and it will then be easier for them to solve the athletic problem. That question cannot be solved satisfactorily till it is

taken out of the hands of growing boys and professional or semi-professional trainers and coaches. . . .

The establishment in 1888, by Mrs. Hemenway, of the Boston Normal School of Gymnastics, which stands in the forefront among similar schools in the country, was an event of capital importance in the history of physical training in America, and takes rank alongside the gift of the Hemenway Gymnasium to Harvard University by her son, Mr. Augustus Hemenway. The course of study and training in this school has been widely influential in raising the standard of fitness for teaching school gymnastics. The number of private adventure schools devoted to the normal training of teachers of gymnastics has not largely increased since 1890, but the curriculum of most of them has been considerably expanded and strengthened, as is also the case with the public normal schools.

One of the most significant characteristics of the present movement for promoting physical training is found in the growth of the conviction, born of experience as well as of reflection, that teachers and directors of physical education need careful and thorough preparation for their work, and the measure of success attained by some of the normal and training schools devoted to the special teaching of the principles and practice of gymnastics that have been started or re-formed since 1880 affords ground for hope that the professional training of teachers of gymnastics will be more effectively organized in the future. In this connection special mention should be made of the "Turnlehrer Seminar," maintained by the North American "Turnerbund" in Milwaukee; the physical department of the Y. M. C. A. Training School at Springfield, Mass.; Dr. Sargent's Normal School, at Cambridge, Mass.; Dr. Arnold's Normal School, at New Haven, Conn.; the Boston Normal School of Gymnastics, and the Posse Normal School in Boston. Summer schools and courses, some of which are maintained by colleges, also abound, but as a rule the colleges and universities have done but little directly toward raising the standard of professional training for teachers of gymnastics and athletics. Women preponderate among the pupils and graduates of the existing schools for training teachers of gymnastics. How to redress the balance and render the field attractive to a sufficient number of competent and well-educated men is a problem as difficult as it is important. Although the attempts of the responsible leaders in education have been less vigorous and successful than could be desired, it should be remembered that they have been confronted by an unusual number of puzzling and novel problems. While educational authorities are still groping their way toward clearer views and better methods of organization and administration in respect to physical training, there can be no question that substantial and gratifying progress has been made in the department of school gymnastics since 1880. We may confidently expect even greater progress in the next twenty-five years.

On the whole, the advancement of physical education in America has been greater in the past twenty-five years than in any other period of its history. Obviously the most striking and rapid expansion has been in the department of athletics. Strenuous and contentious sports appeal directly and forcibly to the instinctive yearning of growing youth for publicity and applause. The recrudescence of barbarism which has manifested itself in manifold ways in this country in recent years, notably in the influence attained by the sensational press, has served to stimulate the spread of athletics and render them one of the most obtrusive and profitable forms of popular amusement. The growing addiction of all classes to outdoor exercise and recreation has also tended to enhance the interest of old and young in games and sports, and has proved an influential factor in a widespread movement to provide the children and youth of congested urban districts with playgrounds, gymnasias, and bath houses. The passionate asceticism exemplified by the élite of the athletic world when "in training" has unquestionably had a laudable effect upon the imagination of the mass of scholastic youth who cannot aspire to athletic prominence, and contributed to the dissemination among them of more sensible views and practices as respects regimen and exercise. As a result, student morals and hygiene have improved.

For the most part the athletic movement owes its characteristic features to its devotees and the public. Faculties and boards of trust have done comparatively little—and much of that little ill—toward shaping and guiding the movement. Hence the best interests of rational and effectual physical training have suffered much in this country, and suffer still, from the disproportionate influence of athletic ideals and customs upon schoolboys and collegians. Latterly, criticism of the evils of rampant athleticism has increased in force and volume. In certain quarters governing boards and "athletic committees" have shown courage and wisdom in their efforts to abate extravagance and professionalism. Should their example prove contagious, it is probable that a new and devoutly to be desired era of well-regulated athletics will set in and that the educational value of clean sport will be much more generally apprehended and effectively availed of than has hitherto been the case. When that day comes, gymnastics and athletics will reinforce and aid each other as they should, and a long step forward be taken in the development of physical training.

The movement for the advancement of school gymnastics has slowly and fitfully but surely gained in force and volume with every new wave of interest in popular education. The extraordinary interest in the welfare of the public schools which swept over the country in the early nineties (which led to the introduction of many needed reforms and floated a variety of educational novelties into prominence), seems to have passed its flood, leaving many promising

schemes to survive or perish as best they may. Physical training has had to compete for favor and funds with the kindergarten, manual training, nature study, and other less laudable objects. Owing to that competition and the conflicting views and divided counsels of the professed advocates and exponents of all sorts of systems of school gymnastics, as well as to the inadequate supply of competent teachers, the general adoption of sound and practical gymnastic instruction in all grades of the public schools has not been attained. Still much has been gained in the field of discussion and of experiment. Not only more people, but more kinds of people, feel that no hopeful means of combating the untoward effects of school life upon the normal growth and development of the rising generation should be neglected. Consequently both the general and the educational public are disposed, as never before, to consider and even to admit the claims of physical training to a larger and more influential place in the public school system. Thus the way is being opened for clearer ideas as to the value and capabilities of the various forms of physical training, the character of the measures requisite to effectuate their ends, and the obstacles in the way of such means.

Although discussion is less general and lively than it was ten years ago, it has improved in tone and become more intelligent, discriminating, and profitable—theories and practical measures are subjected to more patient and searching criticism than at any previous time. Then, too, experimentation in this field is more general and better directed than heretofore, and a greater readiness to ascertain and apply the teachings of experience is apparent both among school officials and teachers of gymnastics. Discussion and experiment are proceeding so soberly, patiently, and fruitfully that (though there has been little of startling or dramatic progress in the field of pedagogical gymnastics recently) there is no ground for apprehension lest there should be a reversion to the condition which was generally prevalent prior to 1885. The problems of the education of the city school child and the problems of physical training are inextricably connected and interrelated, and must be met. The penalties of avoidance and inactivity are so sure and speedy that hereafter complete or long-continued neglect of physical training in the leading cities of America may be looked on as an improbable event.

When we consider the progress made since 1880 and the characteristics of the present time, there seems a fair prospect that when the next tide of keen and general interest in popular education begins to flood, the cause of sound physical training in both of its principal departments will be so quickened and advanced as to enter upon the stage of constructive development.

NOTE.—From the tone of many of the contributions in this Section it is evident that the onward movement described by Dr. Hartwell is in rapid progress, and is constantly gaining in impetus and volume.—[C. W.]

ANTHROPOMETRIC CHART.—MALE.

63	64	65	66	67	68	69	70	71	72	73	HEIGHT IN INCHES	-----
100	110	113	125	132	138	145	153	160	170	180	WEIGHT IN LBS	-----
64	65	66	67.5	68.2	70	71.2	72.5	74	75	76	ARM STRETCH IN INCHES	-----
12	12.7	13	13.3	13.5	13.8	14	14.3	14.6	15	15.5	NECK GIRTH	-----
29	31	31.5	32	33	34	34.9	35.8	36.7	37.7	39	CHEST, NATURAL	-----
31	33	33.5	34	35	36	37	38	39	40	41.5	CHEST, INFLATED	-----
25	26	26.7	27.3	28	28.7	29.4	30.3	31	32.2	33.5	WAIST	-----
17	18	18.6	19	19.6	20.2	20.8	21.4	22	22.8	24	THIGH	-----
12	12.4	12.7	13	13.4	13.8	14	14.4	14.8	15.3	16	CALF	-----
9.5	9.9	10.3	10.6	11.2	11.6	11.8	12.4	12.8	13.4	14	BICEPS, ARM UP	-----
8.8	9	9.3	9.5	9.8	10.2	10.4	10.7	11	11.5	12	FOREARM	-----
14	14.5	15	15.2	15.6	16	16.4	16.8	17	17.5	18	SHOULDER BREADTH, INCHES	-----
220	260	290	310	340	370	400	430	460	500	550	LIFT IN LBS	-----
4	5	6	7	8	10	11	12	13	14	15	PULL UP, TIMES	-----
60	66	72	78	84	90	98	110	120	135	150	GRIP IN LBS	-----
170	185	200	217	233	250	267	274	300	315	330	LUNG CAPACITY, CUB. IN.	-----
1	5	10	18	33	50	33	18	10	5	1	PER CENT.	-----

ANTHROPOMETRIC CHART.—FEMALE.

58	59	60	61	62	63	64	65	66	67	68	HEIGHT IN INCHES	-----
90	95	100	104	113	120	127	136.8	140	150	160	WEIGHT IN LBS	-----
58	60.3	61.3	61.3	62.3	63.5	64.7	65.7	66.5	67.5	69.3	ARM STRETCH IN INCHES	-----
11	11.4	11.8	11.8	12	12.2	12.5	12.8	13	13.3	13.8	NECK GIRTH	-----
26	27	27.8	28.6	29.2	30	30.8	31.4	31.8	33	34.5	CHEST, NATURAL	-----
28	29	29.8	30.6	31.2	32	32.8	33.4	33.8	35	36.5	CHEST, INFLATED	-----
21	22	22.6	23.1	23.8	24.5	25.2	25.9	26.7	27.8	29	WAIST	-----
16	19	19.6	20.1	20.8	21.5	22.2	22.9	23.7	24.8	26	THIGH	-----
11.5	12	12.4	12.7	13	13.3	13.6	13.9	14.2	14.6	15	CALF	-----
8.5	9.2	9.6	9.8	10.2	10.5	10.8	11.2	11.5	12	13	BICEPS, ARM UP	-----
7.5	8	8.2	8.4	8.7	9	9.3	9.6	9.8	10	10.5	FOREARM	-----
13	13.5	13.9	14.1	14.4	14.5	14.7	14.8	15.1	15.5	16	SHOULDER BREADTH, INCHES	-----
80	100	112	125	145	175	202	235	260	280	300	LIFT IN LBS	-----
30	35	40	45	50	55	55	60	65	70	80	GRIP IN LBS	-----
80	105	117	128	140	150	160	170	180	190	200	LUNG CAPACITY, CUB. IN.	-----
1	5	10	18	33	50	33	18	10	5	1	PER CENT.	-----

To compare one's measurement with an average individual of the same height, first get all of the same measurements and tests given in the column at the right that can be conveniently obtained. These may be taken as follows:

- Height*—Without shoes. *Weight*—Without clothes, or deduct 4 to 10 lbs.
- Arm Stretch*—Distance from tip to tip of fingers; arms stretched sideways.
- Neck*—Girth in centre; take girth with a tape or string and measure on a rule.
- Chest Natural*—Arms hanging easily at the side; measure over the nipples on men and above the breasts on women.
- Chest Inflated*—Same measurements, taking as full a breath as possible.
- Waist*—At the smallest part. *Thigh*—At the largest part.
- Calf*—At the largest circumference.
- Biceps arm up*—At the greatest circumference arm bent up hard.
- Forearm*—At the largest part, arm extended, fist closed tight.
- Shoulder breadth*—With arms at side measure about 2 inches below the ends of the shoulder blades.

Lift—Grip and Lung capacity cannot be taken without proper instruments.
Per cent.—These figures show that about 50 per cent. of men are 68 inches high. To plot measurements and compare them, mark the measurements on the line under the corresponding figures, *i. e.*, height 64 inches under the figure 64 in the line of figures to the left of height. If the person measured is symmetrical, all the other measurements will be in the vertical column under 64. This, however, never occurs. If the weight is 137 pounds mark the line a proportionate distance to the right of the spot under 136, as at X on the female chart. When all the measurements are thus plotted connect the points by lines. The zig-zag line thus produced represents the individual as compared with the average of other individuals of the same height.