

The Expansion of Resistance Training in U.S. Higher Education Through the Mid-1960s

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he colleges of the United States offer an interesting picture of the early spread of resistance training in this country. For the first half of this century, it was rare to find any institutional support for weight training in U.S. higher education, either as a form of conditioning for athletics or as an “activity class” in physical training. The belief that resistance training would somehow bind the muscles of anyone who trained with weights was so widespread at that time among professional physical educators and coaches of varsity athletics that anyone who violated this taboo was considered either foolish or misinformed, usually both. Gradually, however—as the research journals in the field of physical education and sports medicine began to publish articles by people like Donald Chui and Peter Karpovich laying waste to the theory of muscle-binding, and as more and more young men followed the teachings of iron boosters like Bob Hoffman and Joe Weider and proved by their sports performances how valuable the weights could be—the walls of prejudice began to weaken and, in places, to give way. Finally, barbells, benches and squat racks began to appear on college campuses. This change, as usually happens in such cases, came in fits and starts, with certain institutions—even certain divisions of certain institutions—playing the role of pioneer. In any case, an examination—using the medium of the “muscle” magazines of that period—of the place of resistance training on a number of the nation’s campuses as of the 1960s will illustrate the various ways in which the once-hated weights became a popular and well-accepted part of the college scene.

The University of Maryland

At the University of Maryland, weight training was introduced in 1951, as a physical education class. Soon the popularity of the activity made it necessary for the small weight training room to be kept open to allow students to take part more often. As time went by, additional classes in weight training were scheduled, and, in 1955, the weight training headquarters were moved to a new building where a spacious and well-designed room was provided. In 1958, six classes in the fall and ten in the spring were taught. Each class had an average of approximately thirty students, and the popularity of weight training as a physical education class at that time is attested to by the fact that the weight training classes were among the very first to be filled on a voluntary basis.

Another phase of weight training at the University of Mary-

land was the use it had in the adaptive and rehabilitative programs for injured or incapacitated students. A separate room was provided for this activity. Competitive weightlifting is another activity that was quite popular on the University of Maryland campus. The Olympic Barbell Club was a student organization which promoted competitive weightlifting on the campus. Athletic teams at Maryland which as of 1959 made use of weight training as a conditioning aid were track and field, basketball, wrestling, swimming, baseball, and football. There was also interest in resistance training in Maryland’s Graduate School of Physical Education, and several theses and dissertations were done there in the fifties which dealt with the physiological effects of weight training.¹

Springfield College

One of the first men to actively push the cause of weight training at Springfield College was Fraysher Ferguson, who enrolled as a freshman in 1938. Although the faculty was opposed to resistance training at that time, Ferguson energetically pushed the activity and formed a club that at one point had more members than the football coach had out for football. In 1940, Ferguson convinced the faculty to allow a demonstration by two of the most famous weightlifters in the world—John Davis, the world weightlifting champion, and John Grimek, the most famous bodybuilder in the world at that time. The sight of these hugely muscled men performing full splits, giant swings on the horizontal bar, and front and back somersaults was very influential in erasing the prejudicial views held by some members of the faculty, particularly Dr. Peter Karpovich, who was so astonished by what he saw that he began a series of research projects which became very influential in demonstrating the falseness of the claim that the muscles of weightlifters were bound, stiff and inflexible.²

In 1958, two rooms were set aside at Springfield for weight training, and these rooms were used from eight in the morning until ten in the evening. By 1959, weight training was used by Springfield’s varsity athletes in the sports of football, track and field, basketball, and wrestling. Many scientific investigations into the physiological effects of weight training were done at Springfield, most of which were directed by Dr. Karpovich.³

The University of Nebraska

Although the University of Nebraska had facilities for extracurricular weight training for many years, weightlifting did not become a part of the actual curriculum until the late 1950s, at which time one hour’s credit per semester was given to the students who engaged in this activity. In 1959, eight classes per semester, holding an aver-

age of sixteen men per class were offered. Separate classes were offered for beginners and advanced men.⁴

Stanford University

Weight training had its beginning at Stanford University shortly after the conclusion of World War II, but the program did not begin to flourish until 1955, when Dr. Wesley Ruff joined the faculty and began to spread the iron gospel. As of 1960, athletic teams at Stanford making use of resistance training included the track team, the football squad, and the basketball team—as well as the swimmers, wrestlers, and gymnasts. Weight training also played a prominent part at that time in the rehabilitation of injured athletes. But, although many students trained with weights under the athletic program, a far larger number used weights in the physical education program at Stanford. Class enrollment was limited to thirteen students per period, and weight training was offered seven periods a day, with classes meeting Mondays, Wednesdays, and Fridays. On Tuesdays, Thursdays, and Saturdays interested students and faculty could use the facilities of the weight room independently.⁵

Notre Dame

Weight training on the campus of Notre Dame University owes its existence almost entirely to the famous strongman-priest, Father B. H. B. Lange. Father Lange started the gym in 1935, and he operated it until 1960 without school support. Lange personally built or bought virtually every piece of athletic equipment in the extremely well-equipped gym, and from 1935 to 1960, he enrolled an estimated six thousand regular trainees in his gym.⁶

With his support, competitive weightlifting played an important role at Notre Dame, and in 1953, Notre Dame won the National Intercollegiate Weightlifting Team Championship. Although Father Lange's weight training gym had at that time no official connection with the athletic department, many varsity team members from various sports took weight training instruction there. Many of the coaches sent their men to Father Lange for training. Even Knute Rockne, who was a close personal friend of Father Lange, sent some of his athletes there for training. Each year Father Lange awarded a number of beautiful hand-curved trophies he made to the young men who had worked the hardest under his supervision. Notre Dame Uni-

versity, and the weightlifting world in general, both owe much to the great dedication of the late Father B. H. B. Lange.⁷

Temple University

Weight training at Temple University had its inception in 1955 and, for the next ten years, the activity enjoyed exceptional growth and popularity. By 1960, every athletic team at Temple University used weight training as part of their conditioning regimen. The weight training activities on the Temple campus were divided

into four main areas: (1) an extra-curricular or recreational activity for both faculty and students, (2) a classroom-physical education activity for physical education majors and liberal arts and teachers college students, (3) a training and conditioning medium for varsity and intramural athletes, and (4) a rehabilitative medium for injured athletes.⁸

The University of Iowa

In 1943, the late Dr. C. H. McCloy and Dr. Arthur J. Wendler decided to personally test a hypothesis of theirs, which was that weight training resulted in reduced flexibility and poor coordination. Although both men felt this way at the beginning of the program, after the study was finished they changed their minds and became lifelong disciples for the cause of resistance training. This early interest on the part of these faculty members led to a great deal of valuable research at the University of Iowa. All of this research substantiated the empirical findings of Drs. McCloy and Wendler. In the required physical education program, eight classes in weightlifting were offered, and students were graded on the basis of their competence in the three competitive lifts in use at that time—the press, the snatch, and the clean and jerk, sometimes called the Olympic lifts. Students suffering from general muscle weakness, physical handicaps or recent operations were assigned to a special program of adaptive physical education.

Beginning in 1948, an all-university weightlifting tournament was held as a part of the University of Iowa intramural program. Further evidence of the popularity of the activity is that even though the weight room was kept open several days a week for several hours to allow enthusiastic students extra time to train, on several occasions the door to the weight room was smashed from its hinges by over-zealous young weight trainers. By 1960, varsity athletes from the football, baseball, bas-



STRONGMAN-PRIEST B. H. B. LANGE, OF NOTRE DAME, PLAYED A PIVOTAL ROLE IN THE DEVELOPMENT OF RESISTANCE EXERCISE IN AMERICA'S UNIVERSITIES.

ketball, track, swimming, and wrestling teams all trained with weights regularly before the season, during the season, and after the season.⁹

Louisiana State University

There was some activity in weight training at Louisiana State University as early as the 1930s but only since 1946 did it grow steadily and well. By 1960 every athletic team at LSU used resistance exercise in its conditioning and all of the coaches were highly enthusiastic about this form of training. A fully equipped weight room was provided by the Physical Education Department, and classes were taught there during all the morning hours. The varsity athletes had a separate weight room provided by the athletic department. Competitive weightlifting was also an important facet through the years at LSU and, in 1948, the United States Junior National Team Championship was won by the school. Research in resistance training was carried on at LSU both by the faculty and the graduate students, and many worthwhile contributions in the field have been made by this school, chief among these being the phenomenal success of the 1958 weight trained national football champions led by All American running back Billy Cannon, who had learned to lift under the supervision of Al Roy at Baton Rouge's Istrouma High School.¹⁰

A unique and pioneering aspect of weight training activity on the LSU campus was that by 1960 each of the men's dormitories had a fully equipped weight room. Students desiring to use the facilities of these weight rooms paid the nominal fee of \$1.00 per semester. This plan had the full backing of the administration, and the rooms were in almost constant use.¹¹

The University of Illinois

As of 1960, the University of Illinois enrolled approximately four hundred students per semester in various sections of the physical education course in weight training. More students signed up for this course than for any of the thirty-two courses offered in the physical education program. Every hour of every school day the weight room was in use. At the end of the school day, when regular classes were over, the room was used by students and faculty interested in lifting independently. At the end of the semester, students taking weightlifting entered a sports fest held by the Physical Education Department. There was competition in all sports, including weightlifting, and the top three men in each weight division received medals.¹²

Graduate students at Illinois during those years did research for theses and dissertations with titles such as: "Changes in Physical Fitness Associated with Weight Lifting," "The Effect of Weight Training on Total Reaction Time," "The Effect of Squat Bending upon Various Athletic Abilities," and "The Relationship of Weight Lifting Performances to Certain Measures of Body Structure." By that time many of the school's athletes practiced weight training at the campus weight room, and the barbell program had the full support of the athletic department.¹³

East Carolina College

Back in the 1950s a student entered the office of the Director of Physical Education at East Carolina College and asked permission to bring some of his personal weights to the gymnasium. He

was given a small corner in a storage room, but in a matter of days there was such a demand for this activity by other interested students that it was obvious to the administrator that the activity would either have to be banned or supported. They chose the latter and the weight training program at East Carolina College has grown steadily since that time. An excellent 30' X 90' room was set aside for the program and equipment was procured. Shortly thereafter, all of the coaches of the athletic teams at East Carolina College began advocating the use of barbells to their teams. Regular periods through the day were scheduled for members of the various athletic squads to work out in a supervised manner in the weight room. Physically handicapped students were handled by a specialist in corrective therapy. Course credit in regular weight training classes was offered, and—as at Illinois—the activity was the most popular in the program.¹⁴

Stonehill College

In 1961, Stonehill College had an enrollment of approximately six hundred students, and it had had a weight training program for about fifteen years. Weight training on the campus was on a completely voluntary basis, and yet a large percentage of the student body took advantage of the well-equipped facilities. Many of the varsity athletes at Stonehill trained with weights in an effort to improve their ability at their chosen sport, and an annual weightlifting contest was held at Stonehill for students interested in competition.¹⁵

Wake Forest College

In 1956, Wake Forest provided a large weight training room in their new gymnasium, and from that time on all aspects of resistance work have prospered and grown. Varsity athletes on the baseball team, the football team, the basketball team, the swimming team, and the track and field team all participated in carefully supervised weight training programs. Every athletic coach on the campus was high in his praise of the benefits to his athletes in terms of fewer injuries and increased ability.¹⁶

The Wake Forest Department of Physical Education sponsored an active program in resistance training, a unique feature of which was that every male student enrolling there as a freshman was exposed to six weeks of weight training. After this period of initiation, the students who were interested had elective courses in weight training from which to choose in both the fall and spring semesters. Another outstanding feature of the resistance training program at Wake Forest was the adaptive and rehabilitative program. In this program, many young men who, because of their physical limitations, had been relegated to the role of scorekeeper or equipment manager in junior high and high school got a chance to participate in physical education on a level suited to their ability and need.¹⁷

Eastern Washington College

Weight training had its inception at Eastern Washington College in 1954, when one class in this activity was taught to a group of young men. The program since then has thrived, and at least six regular sections (four for men and two for women) were offered each quarter. An unusual aspect of weight training on the Eastern Wash-

ington campus was the great deal of interest shown in this activity by women students. In 1959, a class was started with twelve women participating, but in the next semester the number had jumped from twelve to fifty. By 1961, each women's class offered in weight training always filled to capacity.

Another important aspect of weight training on the Eastern Washington campus involved the training of students with particular physical needs. In addition, many of the top athletes on the campus also took advantage of the excellent instruction and facilities to condition themselves for their sport. Also, a group of enthusiastic students at Eastern formed a coed barbell club, whose members were interested in the areas of bodybuilding, competitive weightlifting, and athletic conditioning. The Physical Education Department offered several courses in weight training to students who were preparing for careers as teachers. One course dealt with proper techniques in handling resistance training classes in junior and senior high school. This course was co-educational and involved programs for both boys and girls. A graduate course stressing the value of progressive exercise in physical therapy training was also offered.¹⁹

Michigan State University

Organized weightlifting began in 1948 on the campus of Michigan State when a group of interested students pooled their weights and formed a weightlifting club. By 1956 the club boasted thirty members and, by 1961, 175 paid-up members were taking part in this popular activity. By 1961, besides its two weightlifting rooms, the Michigan State campus offered an adaptive sports room for men and another adaptive and weight training room in the women's gym. The weightlifting club was comprised of students interested in lifting competition as well as students training to improve their physiques and health. The club had the active support of the athletic and intramural departments. The main weight training room was open on a supervised basis for at least six hours each day, every day of the week.²⁰

Starting in 1960, a class in the Physical Education Department in weightlifting was taught. The class had approximately forty students, and the Olympic lifts formed the basis of the class work. From 1956 to 1961, the barbell club through dues and exhibitions raised over \$4,500, all of which they invested in equipment. Clinics in weightlifting, featuring outstanding athletes in a variety of sports were also held on the MSU campus. Many of the school's top athletes took advantage of the weight training facilities to condition themselves for competition.²¹

The University of California at Berkeley

As of 1961, the University of California at Berkeley offered, through the Department of Physical Education for Men, regular instructional classes in weight training. Besides this activity, the well-equipped weight training room was used extensively by other students and faculty in extra-curricular training. For some time that single room was all that was available to meet the increasing needs of the Physical Education Department, the extracurricular trainers, and the varsity athletes. Then to relieve the strain, separate facilities were provided for the athletes, and the athletic weight training room ser-

viced men from all varsity sports on the campus. Carefully planned routines of exercise were designed for each player based on his individual physiological needs. The coaches at Berkeley became so enthusiastic about weight training that they subscribed to the following statement: "Up until a short time ago, it was a distinct *advantage* for a coach to utilize weight training methods in conditioning and developing his athletes. Now, however, it is recognized as an *absolute necessity* if a team is to compete on a par with its opponents."²²

San Jose State College

The official status of progressive resistance exercise on the campus of San Jose State College commenced in 1961, and by that time numerous classes in basic weight training techniques were offered as part of the physical education program. Some of these classes were rehabilitative in nature, as many of the freshmen who failed the basic physical fitness test administered at the first of the school year were placed in a weight training class. Most of the top athletes in the various varsity sports at San Jose State also took advantage of the facilities and instruction in resistance training. Another important aspect of the total weight training picture at San Jose State was the two-unit course in progressive resistance exercise which was offered to graduate students.²³

Mount St. Mary's College

Barbell training failed to gain a foothold at Mount St. Mary's College until 1963, when an enthusiastic group of students pooled their equipment and received the backing of Father Hugh Phillips. From then on the club rapidly expanded, moving into more spacious training quarters and acquiring additional equipment. Shortly after this move, the club membership had soared to well over 150 students, who named their club *Societas Vires et Salus*. Some of the members were interested in competitive lifting, although bodybuilding was the interest of the majority. The weight training club quickly became one of the most popular activities on the small, but vital campus of Mount St. Mary's College.²⁴

The U.S. Naval Academy

In the fall of 1961, "Operation Shape-Up" was initiated at the United States Naval Academy. At that time only three hundred pounds of weights were available to the thirty midshipmen who voluntarily took part in this program. Results indicated increased physical fitness and a high level of interest, and gradually more equipment was added. By 1963, several thousand pounds of weights were available to midshipmen interested in this activity. Although two weight rooms were in use shortly after initiation of the program, they were insufficient to meet the needs of the eager midshipmen. Thus it was that an additional room was provided especially for out-of-season training by varsity athletes. Static or isometric contraction training was stressed at the Academy, since space and equipment are always at a premium on board ship. The midshipmen were also instructed in the physiological bases of resistance exercise so that they would be able to intelligently plan the exercise routines for themselves and the men under them after their graduation. Not only were the weight rooms of the Naval Academy campus popular with the

midshipmen and the varsity athletes, but the faculty as well made use of these facilities on a regular basis.²⁵

Marist College

In 1961, Marist College administrators realized the need for organized physical activity to supplement crew and basketball, the two varsity sports on the campus. The administrators wanted a program that would combine a minimum of expenditure with a maximum of physical benefits, and their solution was to introduce weightlifting. Securing an adequate room and a small collection of barbells and equipment, the program got under way and soon was being used by virtually the entire college community. In 1963, a weightlifting coach was appointed and better quarters were acquired. A student club was formed and its members began to take part in competition in the area, as well as sponsor meets on the Marist campus. By 1964, varsity sports at Marist included wrestling, track, basketball, and crew; and the majority of the athletes making up these teams were also included in the supervised weight training program. An interesting sidelight of the weight training picture at Marist College is that the members of the weightlifting club maintained scholastic records well above the average.²⁶

Bloomsburg State College

Bloomsburg State College initiated a program of resistance exercise on their campus in the early 1960s but great strides were made in a few short years. By 1964, every varsity athletic team on campus used resistance training as a means of pre-season conditioning. The coaches of the football, basketball, wrestling, and track and field teams all gave high praise to barbell training as they felt it had added greatly to their successes in recent years. Not only were the coaches at Bloomsburg behind resistance training for the students, but the college president and the dean of students both felt that lifting had a great deal to offer in terms of result, and economy of time.

Oregon State University

By 1965, the campus at Oregon State University boasted two modern, well-equipped weight training rooms. One of these rooms was used every day from eight A.M. until six P.M. for the activity classes and recreation program. The other room was maintained by the athletic department and was solely for the use of the school's varsity athletic teams. Well-organized academic classes in beginning weight training were also offered by the Physical Education Department. In those courses not only did the students learn basic weight training techniques; they learned also the fundamentals of anatomy, physiology, and nutrition in order that they would better understand the scientific bases of progressive exercise.²⁸

Advanced weight training classes allowed each student to assist in the planning of his own exercise routine, and provided instruction in the technique of the Olympic lifts. *Strength & Health* magazine served as required reading for students in the advanced classes. A professional techniques class in weight training was also offered to physical education majors and other interested students who were planning to become teachers. This course consisted of instruction in teaching techniques, acquiring equipment, and class organization.

By 1965, the very successful varsity athletic teams at Oregon State University in the sports of wrestling, swimming, track and field, and football all used resistance training in their conditioning regimen. Rounding out the excellent resistance training program on the campus was the existence of a competitive weightlifting team.²⁹

Wesleyan College

Weightlifting was initiated at Wesleyan College in Connecticut in 1953, and it increased steadily in popularity. When the small weight training room became inadequate, another area was provided in which a circuit training course was set up. The circuit program consisted of twenty stations with four levels of difficulty at each station, and when a student reached the point at which he could successfully perform the circuit at the fourth level, he moved to the heavy, free-weight room for his workouts. As of 1965, approximately 250 students worked out weekly on the Wesleyan campus. This figure included many of the outstanding athletes in the varsity athletic program. Athletes in varsity sports such as baseball, basketball, soccer, swimming, track, lacrosse, wrestling, gymnastics, tennis, golf, and squash made use of both the circuit training course and the more heavily equipped weight room. Approximately half of the 250 students who trained weekly at Wesleyan received physical education credit while the other half trained on their own.³⁰

The University of Texas

When Major L. Theo Belmont left Houston, Texas, in 1913 to become the Director of Physical Training and Athletics at The University of Texas, he brought with him a pair of 25-pound dumbbells. H. J. Lutcher Stark visited the campus nearly every weekend that same year to lift dumbbells with Major Belmont. Stark was a multimillionaire from Orange, Texas, who, after graduating from UT, spent many years as a member of the Board of Regents of his alma mater. Stark remade his physique under the teachings of Alan Calvert, of Philadelphia, and he became an avid devotee and promoter of weight training. In 1914, Roy J. McLean enrolled at The University of Texas as a freshman. To help pay his expenses, he worked part-time for Major Belmont as a secretary and from Belmont and Stark young McLean learned the value and pleasure of progressive resistance exercise. During his undergraduate career McLean lifted weights regularly with Stark and Belmont, added twenty-five pounds of muscle to his frame, and became one of the best wrestlers and handball players at the University. During this period, the dumbbells and barbells of the athletic department were kept and used in the north wing of the Old Main Building where the Tower made famous by the Whitman sniper killings now stands. In 1919, McLean became a member of the faculty, and he initiated a credit-bearing class in weightlifting at The University of Texas in the fall of 1920, perhaps the first such class ever offered in the U.S.³¹

At that time, the coaches of the various varsity sports forbade their athletes to even touch the weights, but McLean, through tests and measurements at the beginning and end of the semester, proved to the satisfaction of his department and his students that barbell training produced measurable and desirable results. Word spread of this activity on the Texas campus and soon the demand increased

for classes in this new activity. These early classes were taught in a wooden barracks building which was one of three that had been vacated by the military service in 1919. By 1929, when Gregory Gymnasium was built, interest and activity in weight training had advanced and ten classes were offered each semester. One of the facilities in the new Gregory Gymnasium was a spacious, amply ventilated room which was for the exclusive use of the classes in weightlifting.

Under McLean's direction, the weightlifting program continued to flourish. From 1929 through 1966, the weight training classes in the Required Physical Education Program proved to be consistently the most popular offering of the department. In the fall of the 1965-1966 school year, for instance, over 1400 students elected to take weightlifting to satisfy their requirement in physical training. No less than thirty-six sections were offered in this activity, some of which were advanced. Two rooms were provided for these classes, one of which featured a floorspace which was, itself, a lifting platform. The platform was probably the largest in the world at the time—approximately 120' x 40'.³³

Another excellent weight training facility on The University of Texas campus was located in Memorial Stadium and was for the exclusive use of varsity athletes. In this well-equipped room, athletes of all the University's major sports underwent conditioning, training, and, when necessary, work of a rehabilitative nature. Between the athletic facilities and the facilities at Gregory Gymnasium, approximately thirty sets of Olympic Standard Barbells were available to The University of Texas students as of 1966. This number was, at that time, probably without parallel in United States higher education.

From the mid-fifties to the mid-sixties—no doubt in part because of the excellent facilities—U.T. has consistently produced a competitive weightlifting team distinguished by its success throughout the state and nation. Another important aspect of resistance training at The University of Texas was the rehabilitation laboratory. This program offered training systems for all students having other than an "A" health rating. Barbells, dumbbells and many other forms of resistance apparatus were used in this excellently equipped and operated laboratory.³⁴

From this partial survey of resistance training activity in U.S. higher education through the middle 1960s, it can be seen that once weights were given a chance, they quickly became a popular form of exercise. In the two decades following World War II, the barriers of prejudice that had kept the weights off all but a few campuses were gradually broken down and a new era began in which weight training was seen by almost everyone as the remarkable, result-producing activity iron gamers had always known it was.

Notes

1. W. M. "Doc" Ely and H. W. "Hap" Freeman, "Barbells on Campus—The University of Maryland," *Strength & Health* (June 1959): 44-46.
2. Dave Baillie, "Barbells on Campus—Springfield College," *Strength & Health* (December 1959): 34-35.
3. *Ibid.*, 51-54.
4. Peary Rader, "Weight Training at University of Nebraska for Student

Body," *Iron Man* (March-April 1960): 18-19.

5. Dr. Wesley Ruff, "Barbells on Campus—Stanford University," *Strength & Health* (March 1960): 25, 59.
6. Capt. George Otott, "Barbells on Campus—Notre Dame," *Strength & Health* (April 1960): 36-37.
7. *Ibid.*, 55-57.
8. Sidney H. Glauser, "Barbells on Campus—Temple University," *Strength & Health* (May 1960), 28ff.
9. *Ibid.*, 52.
10. For the full story of the use of weight training by the L.S.U. football program, see: Terry Todd, "Al Roy: Mythbreaker," *Iron Game History* 2 (January 1992): 12-16. See also: George W. Ritchey, "Barbells on Campus Louisiana State University," *Strength & Health* (July 1960): 36-37.
11. *Ibid.*, 59.
12. William Hottinger, "Barbells on Campus—University of Illinois," *Strength & Health* (January 1961): 36-37.
13. *Ibid.*, 50-52.
14. Dr. N. M. Jorgensen, "The Development of Weight Training at East Carolina College," *Physical Power* 2 (November 1961): 5, 30.
15. Brother Joseph Faul, "Barbells on Campus—Stonehill College," *Strength & Health* (March 1961), 34-36.
16. Gene Hooks, "Barbells on Campus—Wake Forest College," *Strength & Health* (November 1961): 28-29, 49-50.
17. *Ibid.*, 51.
18. Jack R. Leighton, "Barbells on Campus—Eastern Washington College of Education," *Strength & Health* (December 1961): 34-35, 50.
19. *Ibid.*, 50-52.
20. Pat O'Shea and G. I. Strahl, "Barbells on Campus—Michigan State," *Strength & Health* (January 1962): 36-37, 51-52.
21. *Ibid.*, 53-54.
22. John Neumann, "Barbells on Campus—University of California," *Strength & Health* (February 1962): 40.
23. Ray Van Cleef, "Barbells on Campus—Weight Training at San Jose State," *Strength & Health* (March 1965): 28-29, 45-46.
24. John C. Grimek, "Barbells on Campus—Mt. Saint Mary's," *Strength & Health* (November 1963): 16-17.
25. Lt. Joe Fournier, "Naval Academy Turns to Weightlifting," *Strength & Health* (March 1964), 16-18.
26. Frank Swetz, "Barbells on Campus—Marist College," *Strength & Health* (December 1964): 24-25.
27. Joseph Figliolino, "Barbells on Campus—Bloomsburg State College," *Strength & Health* (March 1965): 16-18.
28. Patrick O'Shea, "Barbells on Campus—Oregon State University," *Strength & Health* (August 1965): 28-29.
29. *Ibid.*, 76-77.
30. Stan Plagenhoef, "Barbells on Campus—Wesleyan College of Connecticut," *Strength & Health* (December 1965): 16-17.
31. Roy J. McLean and Karl K. Klein, "Barbells on Campus—The University of Texas," *Strength & Health* (January 1960): 33-35, 53-54.
32. *Ibid.*, 53.
33. Interview with Roy J. McLean. 10 March 1966, Austin, Texas. See also: Terry Todd, "The History of Strength Training for Athletes at the University of Texas," *Iron Game History* 2 (January 1993): 6—13.
34. McLean and Klein, "The University of Texas." 56.