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Science Discovers Strength: The Growth of Weight Training in Athletics, 1950-1970

Terry Todd argued that most athletes and coaches in the early twentieth century believe that weight training resulted in slow, uncoordinated, “muscle-bound” individuals. However, a visit by Bob Hoffman, and the York Barbell Team to Springfield College in Massachusetts, helped sway the weight of scientific opinion in favor of weight training. There, the eminent professor of physiology, Dr. Peter Karpovich, watched in amazement as John Davis, the world weightlifting champion, and Mr. America, John Grimek, both displayed agility, flexibility, and great strength. Following this watershed event, Karpovich

and several other exercise scientists began studying athletic performance and strength training. The research produced by these men — Jack Leighton, William Zorbas, Bruce Wilkin, J.W. Masley, and Sidney Calvin — swayed public opinion by providing weight training with scientific respectability. This paper traces the evolution of strength training in the athletic community as science gave it increasing support and credibility. It explores both the early attempts by athletes to use resistance training and the research progress made by exercise scientists.

The greatest experimentation with the use of weight training by athletes occurred in track and field. A number of top competitors—Bob Richards (pole vault), Mal Whitfield (middle distance), Otis Chandler and Parry O’Brien (shot put), Bob Morrow (sprints) and Bob Backus (hammer) — demonstrated that weight training could significantly enhance the ability to run, jump and throw. The growth of weight training in football owes much to the success of the Louisiana State University (LSU) Football team. In 1958, after adopting an out-of-season strength program, they won the National Championships and, in 1959, their star halfback, Billy Cannon, won the Heisman trophy. Alvin Roy, who later went on to work for the San Diego Chargers as a strength coach, has been credited with much of the success of the LSU team. In swimming, Dick Cleveland and Al Wiggins of Ohio State University set world records in freestyle and butterfly/medley respectively after periods of intensive weight training. Other sports in which recognized athletes attributed their success to regular weight training in this era include basketball (Bill Simonovich, Wilt Chamberlain), boxing (Bob Baker, Randy Turpin), wrestling (Henry Wittenburg), golf (Frank Stranahan), tennis (Frank Sedgman), and rowing (Jack Kelly, Jr.).

With the growth of sport and the self-perpetuating success of weight-trained athletes, the application of weight training to sport grew rapidly. Weight training began to be assimilated into comprehensive training programs throughout the whole year, not just in pre-season periods. A concomitant increase in scientific literature to support the beneficial effects of weight training on athletic performance occurred. The greatest breakthrough since Karpovich’s early studies came, however, in 1965, when the Russian sport scientist Lev Pavlovich Matveyev published *The Periodization of Sports Training*. This book represented a profound advancement in the scientific application of training theory to sport and ushered in a new era of high-performance sport.