

Editorial

This issue of the journal includes a new special section which will appear on an annual basis: Strength and Conditioning. Several colleagues – Lee Brown, Loren Chiu, Greg Haff, Brian Schilling, and Travis Triplett - have been added to the Editorial Board in this regard. I am grateful to Harvey Newton for his assistance in recruiting these colleagues. Harvey currently heads up Newton Sports, a sports performance consulting company based in Ormond Beach, Florida, USA. He was the 1984 USA Olympic Team coach for weightlifting and is a former executive director of both USA Weightlifting and the National Strength and Conditioning Association (NSCA).

Lee Brown is Professor of Strength and Conditioning in the Department of Kinesiology at California State University, Fullerton, and Director of the Center for Sport Performance.

Loren Chiu is an Assistant Professor and Director of the Neuromusculoskeletal Mechanics Research Program at the University of Alberta, Canada.

Greg Haff is the Course Coordinator and a Senior Lecturer for the Masters degree in Strength and Conditioning at Edith Cowan University, Australia.

Brian Schilling is an Associate Professor and Director of the Exercise Neuromechanics Laboratory in the Department of Health and Sports Sciences at the University of Memphis, Tennessee, USA.

Travis Triplett is a Professor and Director of the Exercise Science Program, and Director of the Strength and Conditioning Concentrations for the Bachelor and Master of Science degrees in Exercise Science at Appalachian State University, North Carolina, USA.

The special section on Strength and Conditioning includes an article which Harvey Newton co-authored with John Garhammer, “Applied Video Analysis for Coaches: Weightlifting Examples”. The remainder of this editorial is devoted to the work of John Garhammer – a tribute written by Harvey Newton:

John Garhammer, Ph.D., Professor Emeritus from California State University, Long Beach, exemplifies one who has contributed nearly a lifetime to the Olympic sport of weightlifting. Retired from the academic world in 2010, John recently announced (with some provisos) a retirement, after 50 years, from the competition platform.

Garhammer began lifting as a youngster in his home state of Pennsylvania. This was a good time to discover the sport, as the famous Bob Hoffman and his York Barbell Club were located nearby. His early exposure to the sport was influenced by world record-breaking performances by America’s last rank of world-beaters, men such as Tommy Kono, Norbert Schemansky, and Bob Bednarski.

His undergraduate studies were at Penn State University, which included a collegiate weightlifting club team with a rich history. He served as president of the PSU Barbell Club, 1968-69. A few years later Garhammer gained greater insights into the sport while in graduate school at nearby Lehigh University. Here fellow student-athlete and future Olympian Brian Derwin kept the training hall active.

Changing coasts, John Garhammer moved to Los Angeles. Here, on America’s “left coast,” an equal number of impressive lifters fought for national prominence.

*John's best lifting performance came in 1979 when he snatched 125kg and clean-and-jerked 155kg in the 90kg category. During this time he added greatly to weightlifters' basic understanding of sports science, particularly biomechanics, through his regular writings in the Los Angeles-based publication, *International Olympic Lifter*.*

*He moved briefly to Auburn University (Alabama) and continued to expand his influence on regional and national level lifters. But soon he returned to Los Angeles for a position at Long Beach State University and the opportunity to teach and expose thousands of students to not only weightlifting, but the world of biomechanics. During this time, Garhammer authored an excellent Sports Illustrated text, *Strength Training* (1986).*

In the lead-up to USA Weightlifting's efforts at excellence on the platform at the 1984 Olympic Games, I enlisted John as a key player on the US Olympic Committee's Elite Athlete Project. Weightlifting was one of a handful of sports chosen to explore how a concerted effort at sports science might help our most promising lifters. As he had done at the 1978 World Weightlifting Championships and other key competitions, Garhammer methodically collected, analyzed, and distributed his biomechanical analyses in an attempt to further educate American coaches and improve our overall performances.

Dr. Garhammer is often one who succeeded "in the wings," or out of sight of most others at a weightlifting competition. Some of this is due the nature of biomechanical filming, which requires cameras be set at a good distance from and 90 degrees to the barbell on the platform. Never one to seek much attention himself, John Garhammer exemplifies a life dedicated to one simple cause: improved performance. He has published myriad scientific papers and has provided hundreds of clinic presentations for several organizations.

Two personal examples illustrate the impact of John Garhammer's voluminous research and teaching over the years. First, in the 1980s John designed the popular posters, "Technical Comparison of Two World Record Snatch Lifts" and "Technical Comparison of Two Record Cleans." Perhaps more important for the weightlifting coach than the technique tracings from high-speed film that Garhammer made are the accompanying graphs of bar velocity and trajectory, including foot movements. These representations of effective and elite, yet not perfect, technique go a long way to illustrate to lifters several key biomechanical considerations for improved weightlifting.

Copied by nations and groups in the ensuing years, these posters (now represented as one large image (www.newton-sports.com/products)) remain relevant today as thousands of CrossFit participants take up the Olympic sport of weightlifting.

*Secondly, John Garhammer published in *International Olympic Lifter* (Volume III, Number 4, April 1976, pp. 22-27) an excellent article, "Force Plate Analysis of the Snatch Lift." Contained within was a wealth of scientific knowledge, presented in a way that budding coaches such as I enthusiastically devoured.*

Another USA Olympic Team coach (1992, 2008) Roger Nielsen was similarly affected by this writing. Roger and I regularly present clinics and workshops for weightlifting coaches. A few years back I was amazed at the audience reaction when Roger utilized sketches he had made from Garhammer's work that showed the dynamics of the foot during a lift. These quickly and easily illustrate the changing

centers of pressure during the first, transitional, and second pulls of the snatch and clean, as researched by Garhammer 25 years earlier.

Lacking in artistic skills, I asked longtime friend and colleague Roger to provide me with these sketches, which I now present to new weightlifting coaches on my regular schedule of instructional programs. I find that presenting these figures to novice coaches and lifters (many from CrossFit) has a huge, positive impact on teaching the dynamics of today's modern pulling style. Simple as they may be, the scientific findings originally published by John Garhammer remain at the forefront of my coaches' education efforts.

A recipient of numerous individual awards and accolades, Garhammer was a key player in the National Strength and Conditioning Association (NSCA)'s Certification Commission, where he contributed greatly to the legitimacy of that organization's Certified Strength and Conditioning Specialist credential.

Over the more than 30 years that I've known John Garhammer, he has poured countless hours into evaluating and determining efficient weightlifting technique. His conclusions are not opinions, but scientific fact. Numerous countries, especially those that embrace the use of sports science for better performance, continually reference Garhammer's work and, more importantly, apply his work to the athlete.

John Garhammer is a unique individual, one who has truly made a difference in the sport. Personally, I am aware of very few individuals who have sought to maintain the same high athletic performances themselves while continuing to contribute so much to sports science, all the while asking nothing in return.

[Harvey Newton, Personal Communication with the Editor, July 2013]

Simon Jenkins (Leeds Metropolitan University)

