IRON GAME HISTORY

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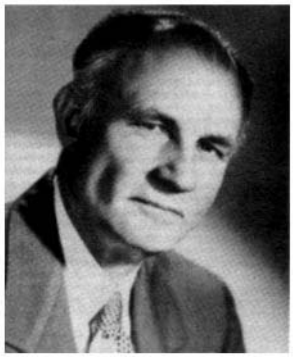
The Herbert Shelton Collection

I've been collecting magazines and books about exercise for almost 50 years, and in the beginning my collecting efforts were focused on competitive lifting, feats of strength, and bodybuilding. Those areas were the heart of my personal interest, and they remained so for my first six or seven years of collecting. At that point I met Ottley Coulter, a former professional strongman and America's leading collector in the field of physical culture. Ottley allowed me to use his collection in the writing of my doctoral dissertation, and as I worked my way through his many thousands of books and magazines, I learned that there was much more to physical culture than strength and muscles.



Herbert Shelton

I learned about people like Bernarr Macfadden, John Harvey Kellogg, Dudley Allen Sargent, and Herbert Shelton. I learned that the farther back in time a book or magazine was published, the more likely it was to contain information about diet, relaxation, fresh air, sunshine, and hygiene as well as about systematic exercise. Ottley, who was born in 1890, was living proof of this broad focus as both his vast collection and his way of life reflected his belief that heavy lifting alone was only one part of physical culture.

A few years after Ottley took me under his gentle wing, I met Vic Boff, who in later years became one of my closest friends and advisers. He took me much farther into the fascinating world of the non-exercise aspects of physical culture. Vic, himself, made his life's work in areas such as vegetarianism, naturopathy, hygiene, massage, natural foods, winter bathing, fasting, fresh air, and cosmology. He knew everyone in the field for over 70 years, including Macfadden, Dr. Christian Gian-Cursio, Paul Bragg, Dr. Jesse Mercer Gehman, Benedict Lust, and Dr. Herbert Shelton.

As Vic learned of my efforts in collecting, of my acquisition of Ottley Coulter's collection, and of the move Jan and I made to the University of Texas in 1983, he began to push us to learn more about the fields he knew and loved. He argued that our physical culture collection at U.T. would never be complete until we had acquired the bedrock books and magazines that covered those fields. Under his direction and with his enthusiastic help, we contacted the family of Dr. Jesse Mercer Gehman, who allowed us to come to their home in rural Pennsylvania and take what we wanted of Dr. Gehman's books, magazines, and papers. Vic even helped us pack, and we came away with hundreds of boxes of material.

Next, he introduced us to Sydell Herbst, Dr. Gian-Cursio's longtime friend and personal assistant. Following his death, she had acquired the majority of his collection, which was considerably larger than that of Dr. Gehman. Convinced that we would do our best to see that Dr. Gian-Cursio's collection was saved and used, Sydell allowed us to pack it up and drive it back to

Austin in a large, rented truck.

Some of Gian-Cursio's best books had been sold by his family to the Strand bookstore in New York before Sydell got the rest, and we learned from the Strand who had bought the books. Some years later, we were given those books, too, and the Gian-Cursio collection was reunited.

By then, we realized how important and interesting the fields of alternative medicine, early anti-smoking campaigns, vegetarianism, and etc. were in physical culture, and we were delighted to have acquired so much material in the area. But Vic told us there was one other large collection that would make ours unquestionably the most extensive in the world—the Herbert Shelton Collection. At that time it was in Tampa, Florida, and was owned by the National Health Association (NHA).

The NHA was originally called the American Natural Hygiene Society (ANHS), and under that name it continued for almost 40 years. From 1928—when he published *Human Life: Its Philosophy and Laws*—until 1968, Dr. Shelton wrote 35 books and hundreds of magazine articles. In 1939 he began publishing *Dr. Shelton's Hygienic Review*, and for over 40 years his fertile mind filled the pages of the magazine. He was also a prolific speaker and appeared all over country spreading his message of healthful living.

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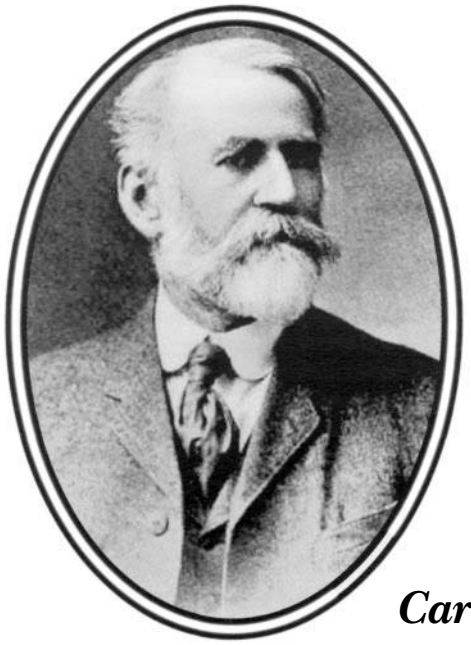


Dudley Allen Sargent: Health Machines and the Energized Male Body

Carolyn de la Peña,
The University of California at Davis

"I developed manhood."
—Dudley Allen Sargent

"Every man who has not gone through such a course, no matter how healthy or strong he may be by nature, is still an undeveloped man."
—Advertisement for *Sandow's Physical Development for Men*

Those who would argue that sports science began in the twentieth century have forgotten Dudley Allen Sargent. As a nineteenth-century fitness educator, inventor, and advocate, Sargent worked to codify a system of mechanized physical science whereby individuals, with the help of machines, would build their bodies to a state of maximum physical energy. Sargent, one of the first creators of systematic methods for mechanized physical training, helped to make possible the quantum advances in athletic performance that have resulted from twentieth-century machines such as the SB II racing bike or the Cybex training system. Yet this nineteenth-century innovator would have seen little resemblance between the results he hoped for and those of the systems in which we currently immerse our bodies. For while both nineteenth- and twentieth-century machine systems have stressed muscular development and scientific quantification, they have done so in the service of dramatically different ends.

We tend today to view machines as tools to improve physical performance. For casual users this means using specific machines to build arms that lift more and legs that run faster. For serious athletes, it means using machines as integrated systems in pursuit of bodies that continuously surpass human limits.[1] Sargent, on the other hand, sought machines to celebrate the limits of the human body rather than surpass them. For Sargent this meant developing a complex system of machines and measurements which, when combined, allowed every man and woman to reach a universal "perfect" muscular form. Sargent saw the ultimate goal of machine training as taking the body to a state of health and equilibrium. Only machines, he argued, could build a body of sufficient muscular strength to handle the increasing mental efforts of twentieth-century life. By exploring the philosophies of their inventor, the machines he created, and the bodies those machines helped generate, it becomes possible to argue that machines were once designed to make bodies fully human. If today we encourage bodies to increasingly resemble the machines that train them, it is not due to a technological imperative. By excavating the original intentions of this health machine creator we can better

understand the unique twentieth-century relationship that has developed between human and machine.

Turning to Machines: Dudley Allen Sargent

In 1869 Sargent laced up his boxing gloves, climbed into the ring, and set about proving his manhood. He had already been hired by the president of Bowdoin College to serve as its new gymnasium director. The president, however, was not the one that Sargent needed to impress. For while he may, at only nineteen, have proven himself intelligent and experienced enough to win over the school's head administrator, it was the students who would have the final say over his employment status. They selected the strongest and quickest of their peers to put Sargent to the ultimate test: ten rounds of boxing after which only the victor could claim the loyalty of Bowdoin's troops. As his students crowded around the ring to watch, Sargent successfully proved his strength and agility by making short work of his student challenger after only a few rounds.[2] Everyone agreed: the question of whether he was qualified to teach had been settled.

The story emphasizes the dramatic difference between the world of physical training that Sargent encountered when he began his career in the 1860s and the world of physical training that he would help create by the time it ended in the early twentieth century. Along with individuals like Swedish inventor Gustav Zander, Sargent helped change the definition of "strong" men from those who won boxing matches to those who won machine-generated, balanced physiques. For Sargent, this meant making a career out of augmenting the traditional gymnasium offerings of boxing rings, high bars, and standard rings with sleek, hand-built weight machines of his own design. Under his tutelage at Bowdoin, later at Harvard, or indirectly at one of the tens of other institutions that adopted the "Sargent system," students were led to believe that real, energy-enhancing strength could only be built with the help of machines.[3] With the help of Gustav Zander, whose developing machines were installed in resorts and health clubs at the turn of the century, this lesson extended far beyond university walls. Together these machines made their middle- and upper-class users a compelling, three-part offer: energetic redemption from physical obsolescence, integration into a mechanized modern world, and representation as efficiently "balanced" masculine physiques.

Little about Dudley Allen Sargent's early experience suggested he would, in the words of one historian, exert "a greater influence on the development of physical training in American colleges and schools than any other."[4] He was, however, fascinated with muscle building early on while growing up in the 1850s in the small town of Belfast, Massachusetts. Sargent's early experiences with physical conditioning encompassed several of the most popular mid-century systems. As a young boy, he first learned of physical development through a school hygiene program. While a teenager in the early 1860s, he came across Thomas W. Higginson's article 'Gymnastics' in the *Atlantic Monthly. [Ed. Note: at that time the term "gymnastics" referred to other forms of exercise than the floorwork, ringwork, and vaulting, etc. that comprise modern gymnastics.]* Higginson offered readers a description of various exercises, including the equipment necessary to perform them. Sargent, like many small-town readers, used materials like Higginson's article to educate himself about fitness; in his autobiography, Sargent remembered cutting out the article to save and study.[5] After acquiring elementary knowledge of both gymnastics and boxing techniques, Sargent organized his own boxing and gymnastic club in Belfast.

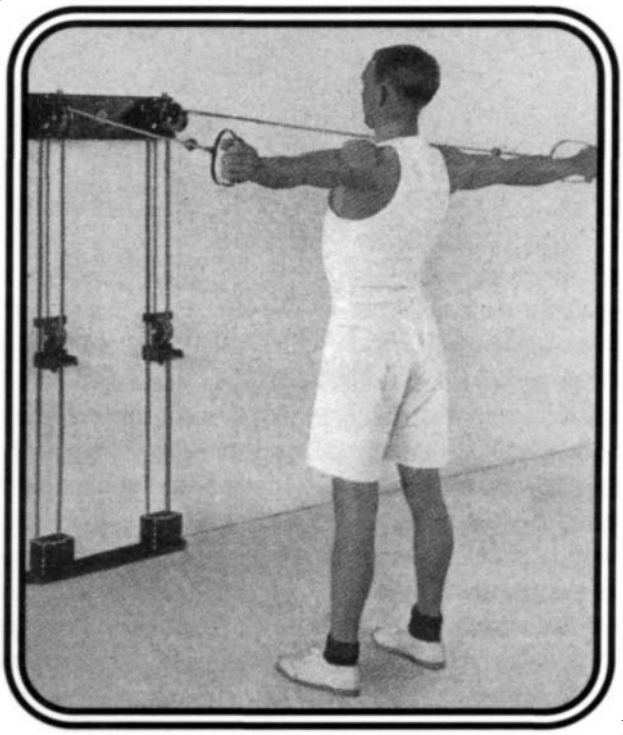
Like many nineteenth-century strongmen, Sargent soon brought his skills before an audience.[6] He organized his fellow Belfast gymnasts into a troupe to put on fund-raising performances and outfitted a local barn with parallel bars, a pommel horse, and rings to develop the muscle behind their maneuvers. Soon "Sargent's Combination," as he called his group, brought their feats to neighboring towns on an informal tour. At the age of eighteen, in 1867, Sargent decided to permanently take his talents beyond Belfast. He joined a variety show that he had seen travel through his town, reasoning that his own skills were at least as good as the featured tumblers. While on the road, he alternated between performing with various circuses and training at gymnasiums to build strength. By 1869, Sargent grew tired of circus life and what he called "the company of loafers."[7] Seeking a way to further his education and pursue his gymnastics interests, he took a job as the Director of Gymnastics at Bowdoin College.[8]

At Bowdoin, Sargent first had a chance to theorize about mechanized muscle building. He had ample time to ponder such theories, for few students ever entered the decaying former dining hall that then served as the gymnasium. Bowdoin's equipment, like that in

most gymnasiums, had not been improved since the early nineteenth century: high bars, rings, and a horse made up most of the collection, reflecting the *Turnen* emphasis on upper-body athleticism.[9] The only grounded equipment was heavy pulley weights and a rowing machine. And while all students would have been able to use the rower, most of the equipment was usable only by those especially skilled in the high bars or of significant upper-body strength. The few weights that might have helped users build that strength were too heavy for most students to budge.[10] According to Sargent, Bowdoin's equipment was, for most students, "a form of torture."[11]

Ironically, Sargent came to believe that machines were necessary in physical training by eliminating them. With little budget and university support, Sargent tried to build a program the cheapest way possible, with Indian clubs and light dumbells.[12] While these lighter weights did allow more students to begin training, Sargent found that many students wanted heavy apparatus. They saw lighter equipment as "an admission of weakness," perhaps referring to its ubiquity in women's gymnastics at the time.[13] In addition, Sargent found dumbells and clubs unsatisfactory in training anything other than the upper body. With the money from his first raise, he bought adjustable machines to augment the gym's lighter equipment. These, he hoped, would be heavy enough to work student's muscles, yet light enough that even weak students could use them. Sargent further modified the heavy pulley system, adding another layer of higher pulleys that made lifting lighter amounts possible. He based his design upon experiments he had done back in Belfast to recruit town boys for his performances. By introducing a system of adjustable iron bars attached to a cord, weaker kids could gradually build the upper-body strength needed for his gymnastics feats. What had worked in Belfast worked at Bowdoin; after installing several of these "developing appliances," Sargent saw results that he claimed "seemed magical."[14] Students who had previously believed their strength was inferior now ventured into the gym to try Sargent's building machines. According to his own accounts, Sargent saw his class enrollment triple after installing his machines. By 1872, Sargent's success convinced the faculty to make gymnastic development, and by association machine training, compulsory for all students.[15]

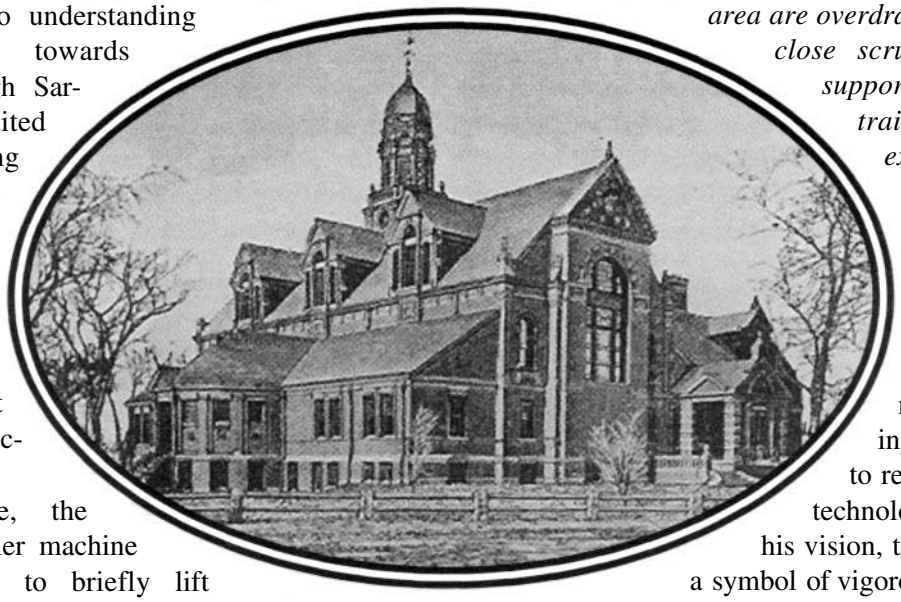
Bowdoin gave Sargent two important resources for his later career: a college degree and a philosophy of mechanized human development. Sargent received the first by taking classes part time, and the second by observing his own students over years of teaching. In a speech entitled "The Limits of Human Development," delivered as part of his junior oration, Sargent explained his new view of body development influenced by machines. "Perfection of man on earth," he explained, "whatever may be his condition hereafter, comes not from the surpassing development of his highest faculties, but in the harmonious and equal development of all."[16] By stressing balanced development, Sargent moved away from his earlier interest in feats of strength. During these first years of machine experiments, Sargent began to realize that his own training as a teenager, while physically impressive, was incomplete. His stress on upper-body development had been, as in the German *Turnen* system, about performance. Years of practice had left him able to swing from the trapeze and perform feats of strength to entertain a crowd, but it had left him "overtrained" and depleted internally. "I had learned how to work and develop my muscles," he recalled, "but I had not learned how to conserve my energy."[17] Performing feats of strength was a fine goal for a kid from rural America. But what good were extraordinarily strong biceps for the typical



Sargent's basic chest-weight machine simply consisted of stacks of weights, two cables and two handles.

young man from America's privileged class? During his Bowdoin years, Sargent had a chance to rethink the purpose of muscular development from his students' perspectives. These future leaders of urban America needed bodies that built as much energy for mental and physical tasks as possible. After Bowdoin, Sargent would spend the rest of his life searching for a system of balanced muscular development and energy production.

Sargent's change in philosophy occurred in the 1870s and was first publicized by one of his supporters and friends, William Blaikie. A Harvard graduate and member of the school's rowing team, Blaikie enjoyed influence among the faculty and in New York, where he was an attorney. It was his book, *How to Get Strong and How to Stay So,* published in 1879, which established Sargent as the creator of a new machine system. Blaikie's description of the properly developed body is essential to understanding Sargent's turn towards machines. Although Sargent never credited Blaikie with giving him the idea for a new approach to physical fitness, Sargent's biographer has documented the close pace with which Sargent followed Blaikie's recommendations.[18]



Harvard's Hemenway Gym in the 1880s.

For Blaikie, the Health Lift, an earlier machine that allowed users to briefly lift immense amounts several inches off the ground, was an improper application of machine technology to the body. It created "work of the grade suited to a truck-horse," he told readers, rejecting David Butler's claim that the lift trained all of the body's muscles equally. Like the truck-horse, "lifters" gained strong backs and legs, but remained underdeveloped. Blaikie knew this from his own experiments with the Health Lift: he lifted 1,000 pounds but was disappointed by his stiff back and "abnormally" developed inner thigh and upper back muscles. Blaikie believed that Butler had missed the promise of machine-based training: a perfectly contoured, symmetrically developed muscular physique. It was this perfectly balanced collection of muscles that could make the modern middle-class man healthier than his urban and rural laboring counterparts. By using scientific machines under scientific advisement in scientific studios, bodies could at last overcome the physical imbalancre that Blaikie felt resulted from any manual labor. "Scarcely any work in a farm makes one quick of foot," he explained, citing the reason why farmers often suffered from ill health. "All day, while some of the muscles do the work. . .the rest are untaxed, and remain actually weak."[19] Athletes, he believed, suffered equally from this imbalance-induced weakness. Blaikie used illustrations to show readers the shortcomings of what he called "poorly developed athletes." While the subjects' deficiencies are not readily apparent to a modern reader, Blaikie saw bodies drastically out of proportion with excessive shoulders, sunken chests, and weak legs. [*Ed. Note: Blaikie's arguments in this area are overdrawn and don't bear close scrutiny. His theory supporting mechanical training led him to exaggerate the negative effects of non-mechanized training.]*

Blaikie's mechanical musings were designed to replace manual with technological strength. In his vision, the yeoman farmer, a symbol of vigorous national health since Jefferson, and the athlete, a hero of strength since ancient Greece, are rendered weak through the very accomplishments that once proved their strength. By insisting that the strength and energy come from balance and not performance, Blaikie created a system whereby doers would always be physically inferior to those who "trained." This would play out into a system of elitism under Sargent and his followers, as only those bodies with access to facilities, machines, and instructors could demonstrate proper energetic physical strength.

For Blaikie, earlier machine systems like Dr. George Barker Windship's Health Lift and David Butler's (later) Health Lift, by failing to take advantage of

machine precision, had left users as weak as the unfortunate laborers and athletes. By not distributing weight equally over the body, they had not afforded the requisite heavy and light resistance for different muscle groups. He proposed alternatively Sargent's light pulley system that he knew from the Bowdoin experiments. Blaikie familiarized readers with Sargent's approach, giving them a detailed description of the machine and showing them a full-page illustration in his text. Only this kind of graduated weight training system could relieve what Blaikie saw as a "clogging," or "lack of complete action," in the body's energy.[20] By equating maximum muscular energy with gradual resistance and balance, Blaikie helped wed man's physical health to machine technology. One could have theoretically supplanted the machine in earlier health equipment technology such as the Health Lift. The first Health Lift "machine," for instance, was not really a machine at all but merely hogsheads in the ground that could be raised and lowered manually.[21] Sargent's system was different. He believed that once progressive resistance is required, only machines can do the job. Using this reasoning, manual labor, or even recreational sport, left the body unevenly developed. His position was that heavy weight lifting, by using the Health Lift or barbells, wasted the body's energy. According to Sargent, there was no way to "perfect man on earth" without apparatus designed for specific muscle groups.

Harvard and the Hemenway: Building a System of Machine Energy

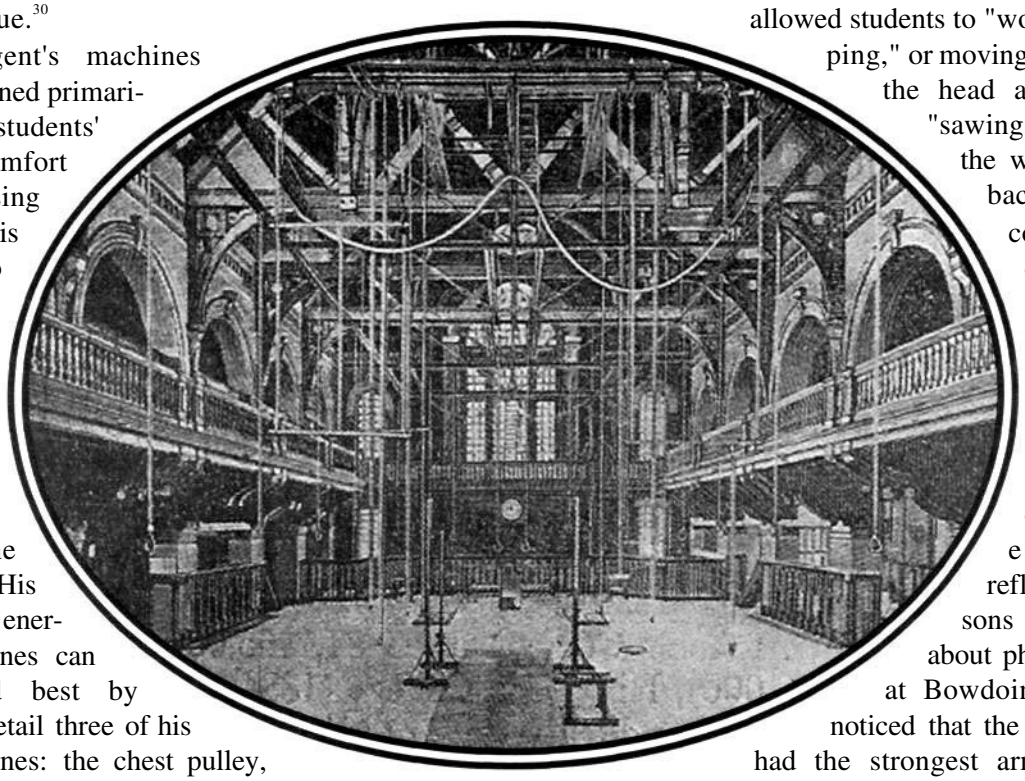
In 1879 Harvard's regents hired Dudley Allen Sargent as the first Director of Physical Education, a position that he would hold for over forty years. Given the task of forming a new gymnastics curriculum to teach inside a recently renovated building, Sargent created a system as new as the exterior facade. Prior to his arrival, the Hemenway had been like most American college gymnasiums: ignored.[22] There was little to attract a crowd; the equipment consisted of a few old-fashioned rowing machines, a heavy lifting machine similar to Butler's, and several older pulley weights.[23] It was, primarily, where gymnastic and boxing clubs met to practice; a place of vital interest to athletes but of little interest to many college men. At Harvard, Sargent had an opportunity to develop a complete system of mechanized fitness. The Hemenway's renovations had cost $110,000, nearly double that of other university gymnasiums. Its running track, rowing room, fencing room, baseball cage, and tennis courts made it one of the most impressive in the world.[24] The luxurious offerings reflected Harvard's desire to develop a fitness program that would both build the health of its student body and improve the performance of its athletes.

Harvard gave Sargent a surprising amount of leeway in constructing the training program. They knew of his work at Bowdoin and that experience, along with his brief stint founding and managing a New York gymnasium in 1878, was sufficient to make him one of the leading experts in his nascent field.[25] Sargent used Harvard's significant financial resources to design and build advanced versions of the machines he had first used for training back at Bowdoin.[26] In addition to offering standard gymnastics equipment such as parallel bars, the pommel horse, and Indian clubs, Sargent offered thirty-six different machines for physical training. The machines were tailored to train each part of the body individually. There were special apparatuses for building back, abdominal, chest, neck, arm, and leg strength. Even delicate areas of the body could be worked with machines designed to build finger power and head balancing skills. There were rowing machines for general exercise and machines designed to correct body deficiencies, such as one designed to correct "any erratic twist or turn in one or both feet."[27]

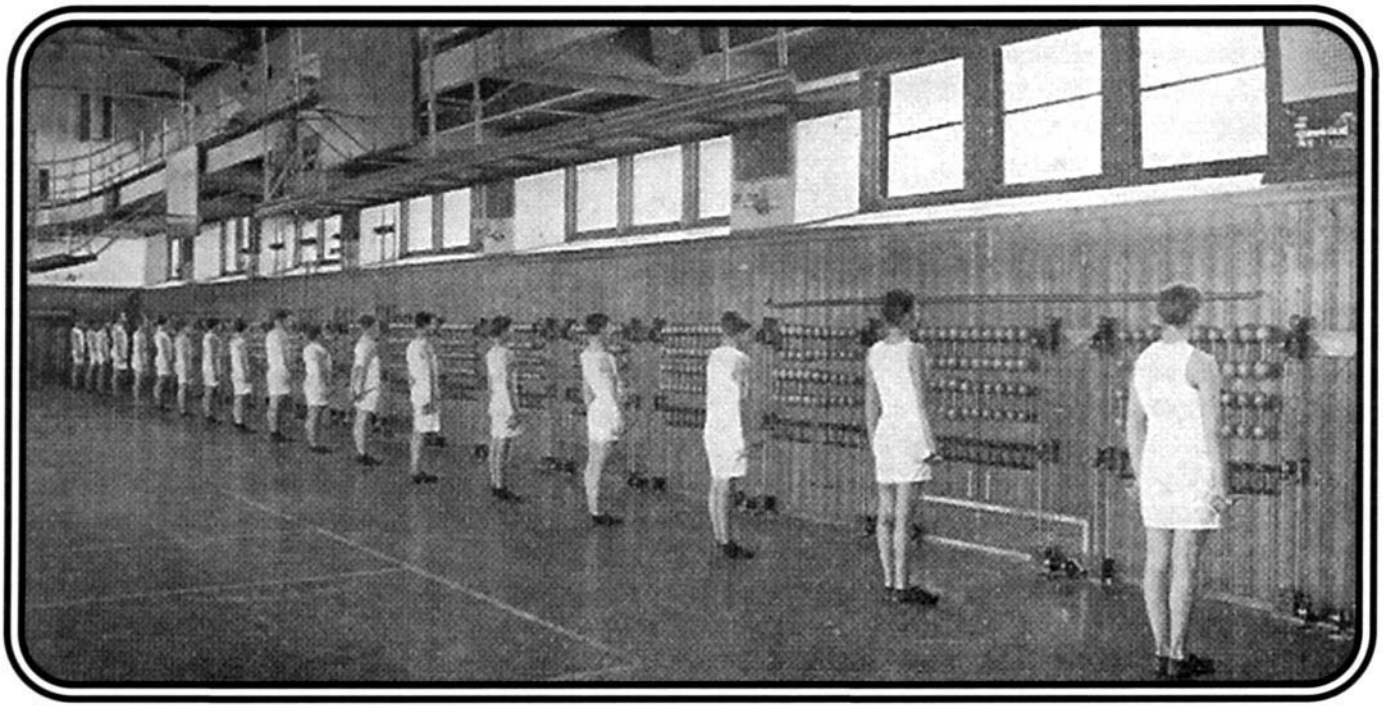
The machines at Harvard, while only one component of physical training, commanded attention from all who entered the Hemenway. There were fifty-six total, and they lined the walls with ample space left between them for users to adjust weight levels and move between equipment. Since much of the regular gymnastics equipment was hung from the ceiling, even users who did not work with Sargent's machines could see them from where they trained. Sargent's Hemenway equipment was striking for several reasons. First, he combined standing and sitting machines. Whereas earlier he had designed primarily chest pulley weights that stood close to walls, his new machines for head and finger strength, as well as those for lower body work, required users to sit on or inside of them. According to one observer, the machine for building calf muscles felt much like an "arm-chair," in which one sat comfortably and pushed a foot weight up and down.[28] Sargent also mechanized traditional gymnasium offerings; he built counter-weighted parallel bars to make lifting one's weight easier and put spring boards on iron pedestals

which pivoted in their sockets for increased bounce. Sargent drew attention to these changes in traditional equipment, saying that although "all the old-style apparatus has been added," it had been "with improvements in form, structure, and arrangement."[29] These innovations allowed students, even those who were in the gym but not using the machines, to feel the effects of mechanized improvements in their physical performance. Additionally, by making improvements such as shaping the parallel bars to students' hands and installing polished ladder-rungs for easy grip, Sargent created a clean, efficient environment reflecting machine-age design and ergonomics a generation before such theories came into vogue.[30]

Sargent's machines were not designed primarily to increase students' physical comfort while using machines. His goal was to produce the healthiest students possible, and he believed this could be realized only by using machine technology. His theories about energy and machines can be illustrated best by exploring in detail three of his specific machines: the chest pulley, the abdominal pulley, and the inomotor. Sargent's most popular apparatus was his basic chest pulley machine. Not only did he have more of them in the Hemenway Gymnasium than any other machine; it was also the most frequently copied by his imitators. Peck and Snyder, one of the best known sporting-goods manufacturers in the 1880s, carried several examples of pulley weights. Professor D. L. Dowd's home exerciser, complete with a list of muscular exercises one could do, was similar to Sargent's machine.[31] Narragansett Machine Company produced pulley weights so similar to Sargent's that he sued them, in spite of his promise to Harvard that he would not patent his devices.[32] Sargent's basic pulley weight was a modified version of the boxes on sawdust that he had first encountered at Bowdoin. By dividing the block weights into iron bars and making these bars attachable to the pulley in desired increments, Sargent created a weight system that, as he put it, was "adjustable to the strength of the strong and to the weakness of the weak."[33] As with each of his machines, Sargent developed specific exercises for students on the pulley weights. With this standard chest pulley he recommended exercises that involved bending, lifting, and circling the arms. Rather than prescribing completely new movements, however, Sargent used those that mimicked natural movements from everyday life. These allowed students to "work" by "chopping," or moving the arms over the head and down, or "sawing," by moving the weight front to back. They could even engage in "swimming" by pulling their arms in circular motions.[34] Sargent's choice in exercise reflects early lessons he learned about physical energy at Bowdoin. There he noticed that the students who had the strongest arms and most overall strength were often those who did regular labor such as blacksmiths and lumbermen. His mechanized system thus attempted to reconnect students, most of whom were from the upper and middle classes, with manual labor.[35] It is significant that Sargent did not simply send his students out to chop wood. Because his focus was on *even development,* Sargent believed that machines could successfully build more muscular power than natural movements. As Blaikie had pointed out in his own work, physical labor led to overdeveloped muscles. One might not saw, row, swim, and chop all in an afternoon. According to Sargent, these pulley weights, by creating many light "jobs" that could be done in a short time, were the best means



Hemenway Gymnasium interior, circa 1890.



This 1914 class of male physical education students at the City College of New York prepares to do chest weight exercises. Notice the racks of dumbells that hang between each machine station.

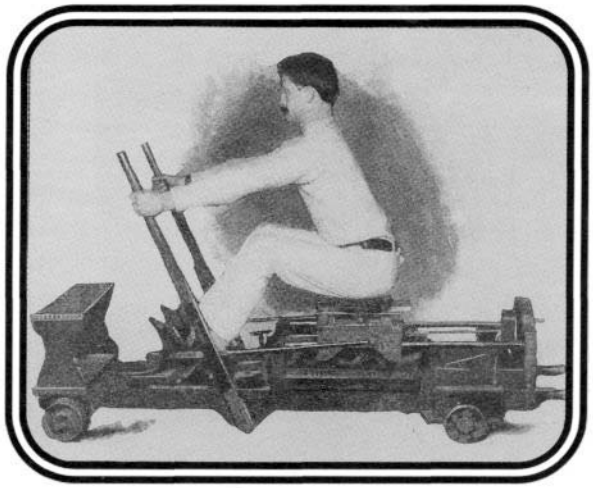
for "giving one an all round development of the whole muscular system."[36]

With balanced development as his goal, Sargent needed machines that allowed students to work underutilized muscles. Thus he developed a series of involved pulley systems that could tax each part of the body. His abdominal machine reveals the construction techniques. Here he has taken the regular chest pulley system and attached it to a table with a backrest via a third pulley attached to a wheel. The result is a machine that uses ankle straps and arm handles to hook a user in, allowing the pulley weight to be lifted and lowered at will. Unlike the chest machine, the abdominal machine was not replicating natural movements. In the process of daily tasks, few laborers put such direct stress on their stomachs. These machines undoubtedly taught students the lesson that full physical development required machine technology. Moreover it made machines necessary in achieving that development while still conserving nerve force. For contemporary gymnasium users, this was a marked difference between Sargent's system and what had come before. As one observer described, most gyms actually hurt users because they required "too great [an] expenditure of nerve-power in the effort to keep the muscles up to their highest tension."[37] In other words, like many modern-day gym users, people tended to end training with less energy than they had before they began. Sargent's system, the observer argued, managed to exercise muscles without exhausting nerve-power. Even the weakest students, he explained, were able to develop strong muscles while preserving their delicate health, thanks to new machines like the abdominal pulley. *[Ed. Note: The argument that Sargent's machines could somehow stress the muscles sufficiently to make them grow in size and strength more effectively and safely than can be done using traditional free weights is fanciful and not supported by modern research.]*

Sargent's inomotor best reflects his belief in the compatibility of machine technology, physical health, and energy conservation. Patented in 1899 by Sargent, the inomotor, a combined vehicle and exercise machine, reflected twenty years of Sargent's active experimentation with machines. The device, which never enjoyed popular success, looked highly unusual, a bit like a vehicle's chassis without the protecting metal exterior. Inside, users manipulated a combination of levers and a sliding seat in order to do two tasks at once: move the vehicle forward and exercise their arms, legs and torso. In principle, the device worked like an exercise cycle: users moved their bodies in a series of movements in order to turn the wheels of a machine. The inomotor, however, offered something quite different—when the

optional wheels were attached, the device actually moved.

Unfortunately for historians, Sargent sketched more than he wrote about the inomotor. It is impossible to know just how he saw the machine fitting into his system of stationary pulley devices. Yet we can hypothesize about it, thanks to Sargent's own proposal to modernize the Hemenway's offerings in the early 1900s. His idea, which was soundly rejected by Harvard's President and Fellows, was to make the inomotor the center of a new, dynamic mechanized training system.[38] The gymnasium's interior would be gutted, with fencing rooms and batting cages torn out to make way for a wide inomotor track. Here, students would literally "drive" themselves to fitness through a combination of physical movements. Sargent's vision would allow health machines to reach their fullest potential: not only would they "work" by allowing students to build their muscles through resistance to levers and pedals, they would also, by putting students' expended energy through an efficient "engine," increase the total amount of energy users possessed.



The Inomotor

It is easy to see why Harvard rejected Sargent's proposal. It is difficult to understand how his inomotor theory worked, even for the modern researcher who dedicates herself to the task. Certainly Harvard's President and Fellows saw the scheme as misguided if not illogical. Yet if we read Sargent's sketches and the limited writings he does provide on the machine's function, it seems apparent that he was actually trying to take mechanized muscle building to a level of energy production far beyond what stationary pulley devices could accomplish. For while Sargent believed that pulley weights developed the body's muscles equally, he saw a problem with the strength students received as a result. Students needed cardiovascular exercise in order to get their pulmonary and circulatory systems flowing over an extended period of time. This was more difficult with pulley weights, regardless of how fast students went from one machine to another, given the inevitable pauses between devices and weight setting. Yet cardiovascular exercise alone could not ensure balance, since, like all unmechanized activity, they expanded some muscles while neglecting others. The key seemed to be in finding a way to use machines to actually pump the body as a whole, building balanced muscle and speeding the heart all at the same time.[39] In his one essay describing the inomotor's efficacy, Sargent uses the analogy of an engine to describe a machine-trained student's heart.

> *A man in this condition is like a factory that has been accustomed to work but a few of its machines at one time, and has an engine adapted to that purpose. In case all the machinery is started up at once, the boiler cannot generate steam enough to supply each machine with its requisite amount of power, and consequently permits of little effective work being done by any one of them. The remedy for the factory is to build a larger engine, or generate more steam. In the case of an individual the remedy is to invigorate the heart and lungs and, if possible, give more nerve power.*[40]

Sargent had realized students could be well-trained at his system of individual machines, yet still lack the overall "boiler" or heart-pumping capacity to work each of the machines at the same time. While this was indeed a theoretical problem, as no student could actually work all the machines at once, it interfered with Sargent's vision of a perfectly developed, balanced physical being. The inomotor is the remedy here, a mechanical cardiovascular entity that he believed could actually give more "nerve power" to the body by invigorating the heart and lungs.[41] When students "drove" the inomotor, they expended their available energy to move its pedals and levers and send it in motion from point A to point B. Yet, unlike stationary machines which merely provided resistance and allowed students only to send energy out, the inomotor, through its engine which propelled the pedals and levers in an ever-faster motion, sent that energy back into students' bodies.[42] As it ran faster and faster, energy accumulated in the vehicle's

interior, actually re-entering students' bodies, a unique by-product of the human-machine interaction. *[Ed. Note: Obviously, Sargent's theory flies in the face of both reason and the teachings of exercise physiology.]*

Sargent never got his vision of the inomotor gymnasium, although he did manage to place several stationary inomotors in the Hemenway where they remained until the early 1900s. Regardless of its ultimate success, however, the inomotor leaves little doubt that Sargent conceived of the relationship between men and machines as symbiotic. Thanks to a revision in university policy, Sargent was able to share this vision with far more students than the hundreds who might have voluntarily partaken of the Hemenway's offerings. While he was never able to make Hemenway training mandatory for students, Sargent did convince Harvard's administration to require all athletes and scholarship holders to go into the Hemenway, meet Sargent, get a physical examination, and be shown an exercise regimen. And while those students would not actually have to do the exercises they were given, they had to be taken through the exercises at least once, ensuring that all interacted with Sargent's machines. Further, each entering freshman had to visit the gymnasium at least once, where Sargent examined his strengths and weaknesses and gave him an exercise prescription, with, in Sargent's words, "specifications of the movements and apparatus which he may best use."[43] Even if each freshman entered the Hemenway only once, at least 250 a year received a personal introduction to Sargent's machines and how they could improve their health.[44] Individual accounts of students' opinions regarding the Hemenway's machines are difficult to locate; nonetheless there is evidence that students increasingly exercised with machines instead of with the traditional equipment. Participation in gymnastics exhibitions decreased dramatically after Sargent arrived, in spite of his own skill as a gymnastics teacher. They were discontinued by the late 1880s.[45] Additionally, President Charles Eliot used Sargent's own rhetoric about machines to praise the new gymnasium in 1883. By highlighting the Hemenway's "greater service to weak, undeveloped persons than to those already strong" and its training of athletes though "moderate and symmetrical muscular development," Eliot undoubtedly had Sargent's mechanized equipment in mind.[46] Existing evidence from students suggests that the Hemenway's equipment was an integral part of their lives. One recalled in 1919 that as a student in the 1880s he and his friends had "exercise[d] there almost daily." He particularly recalled how Sargent had measured their strength, "showed us where we were weak and assigned us to practice on his development apparatus."[47] Popular articles support this student's account of daily exercise. One in 1889 claimed that "at present the average student, with no thought of training for any contest, devotes an hour or so a day to exercise in the gymnasium, or to whatever may be his chosen game."[48]

These young men learned important lessons by frequenting Sargent's Hemenway. It is particularly significant that they were young men; most scholarship on Sargent has focused on how he trained women after opening an institute for women in Cambridge in 1881.[49] Sargent's most complete collection of physical machinery was designed for and used by young men from the middle and upper classes.[50] This has two important implications. It introduced men who would join the white-collar industrial class to a symbiotic relationship between machines and physical health. When young men used the Hemenway equipment, they were told that it was the graduated weights and complex systems of wheels and pulleys that built physical strength by conserving energy. Sargent's repeated emphasis on equating muscular balance with physical health bolstered his theory that only machine precision could guarantee correct development. Such lessons, even if learned on an unconscious level, may have made them more likely to believe in body-machine efficiency systems such as Taylorism. The Hemenway's machines also gave these men a new understanding of the body as a machine that their parents had not had. While the analogy of the "human engine" had been in place for decades, Sargent was the first to develop a system that attempted to prove its truth. By handing each Harvard student a card showing his weakness and next to that weakness listing which machine the student should use to fix it, Sargent taught them to think of their bodies as a system of parts to be repaired by machines. He strengthened this lesson through his emphasis on anthropometry. By measuring students with machines, he completed the circuit of mechanized diagnosis and development at Harvard.

Machines Measure Mechanized Progress: Sargent's Anthropometric System

After students arrived at Harvard, Sargent measured their hearts, lungs, sight and hearing.[51] He then made a detailed physical examination, taking over forty measurements of muscular power and body size. On the

Over the years, Sargent added more handles and pulleys to his basic machine and in this model even included a sliding seat. Advertisement for the Sargent Combination Pulley Weight from the 1914 Narragansett Machine Company's instructional booklet: *Chest Weight Exercises.*

basis of these, each student received a charted prognosis detailing which body parts were average, above average and below average. A machine prescription followed: Sargent gave each student his own individual training schedule, detailing which machines he should use to build deficient muscle groups. Ideally, the next examination six months later revealed that the student had moved closer to the average and had "remedied] defects." Should that not have happened, he received a modified training schedule in order to attempt a second machine corrective for underdeveloped muscles.[52] Harvard students thus approached training with a specific goal in mind: to increase their body size using machines.

As mentioned in one student's account of Hemenway training, Sargent measured each student's strengths and weaknesses. Some of this he did with birds-eye observations: he clocked students to see how far they could run and measured muscles with measuring tape to check development.[53] He also used tools such as calipers, which looked similar to bent tongs, to measure the depth and width of abdomens and chests. Yet these appliances were for external applications; they could only measure what one could see with the eyes. To accurately gauge internal measurements, Sargent used three machines: the spirometer, the manometer, and the dynamometer.[54] Each required the user to exert force upon an apparatus to produce a strength reading. The spirometer was a modified bucket and straw apparatus; users took in as much air as possible and exhaled into the mouth piece, giving a reading of lung capacity in the water displaced. The manometer worked in a similar fashion, except that users blew with one quick blast into the mouthpiece and measured the air pressure on the top dial. The dynamometers were among Sargent's favorite machines, if the number of illustrations in his publications is any indicator. They appeared in numerous guises: the back dynamometer, the hand dynamometer, and the chest dynamometer being most common. The dynamometers afforded the most intimate connection between student and machine. With the back apparatus, for example, one had

to stand on one side of the machine while pulling up on the other. Like Windship and Butler's earlier Health Lift, to which it bears striking similarities, users bent slightly at the knees and then straightened their knees and backs to raise the "weight." The chest and hand dynamometers afforded an equally close connection between user and apparatus. With the chest machine, users held handles on both sides and pushed their hands towards each other. The result could be read in kilograms of force on the display dial. The hand machine worked similarly, only here it was the fingers that pressed in towards each other, forcing the machine's metal exterior to bend.[55] Other physical educators had developed previous measurement systems; Sargent's, however, was the first to intimately chart physical power by mechanized means.[56]

Sargent referred to his machine-measuring as anthropometry. The word, first coined in the eighteenth century, had been popularly used for several decades by the time Sargent began his late 1870s experiments at Harvard.[57] Historians who study anthropometry tend to focus primarily on its nineteenth-century role in "proving" racial inequality.[58] Anthropometry, while scientific when applied by most anthropologists with rigorous criteria, also had a chameleon-like character; it could be used to prove whatever its researcher set out to find. It easily lent itself to racist applications; findings often "proved" the inferiority of certain groups based on personal criteria masquerading as science.[59] Because of this classification, Sargent's general anthropometric system has been largely ignored, even though he was arguably the most well-known anthropometrist of his time.[60] And while physical education scholars discuss Sargent's system as part of the professionalization of their field, his absence in other fields reflects the continued absence of physical fitness from much "serious" scholarly inquiry.[61] Sargent, by virtue of his position at Harvard for twenty years, his summer school program enrolling thousands, his popular writings, and his role as a founder of the American Social Science Association, defined anthropometry for an educated American audience.[62] This definition offers an important corrective to anthropometry studies as only a racially determinist endeavor. Although it originally set out to evaluate a static body, anthropometry in Sargent's gymnasium was used to help the body grow in health and muscular size. Although Sargent presented a rigid standard of the ideal body, his system allowed students of all shapes and sizes to move towards his version of perfection, held back only by their will and the quality of their machinery. Sargent seems not to have subscribed to the view that physical ability was linked to race. As a system, his approach was less racist than it was perfectionist, with important consequences for class connotations of masculinity.[63]

Sargent's anthropometric studies were part of two cultural preoccupations, taking time measurements and conducting efficiency experiments. Taylorism is one of the best-known theories that contained the two; its promoters sought to measure the exact movements of industrial workers to determine the path of least resistance in manufacturing.[64] American scholars have fixated on Frederick Winslow Taylor, arguing, rightly, that his theories successfully distanced workers from their products, reducing what had previously been about craftsmanship to the speedy loading of pig iron.[65] Yet Taylor's project was part of a general climate of efficiency in the late nineteenth century. While many of the projects were designed to speed up industrial production, others were intended to understand the body's processes and extract the most energy possible from them. One historian has called these combined efforts an attempt to develop "a new calculus of fatigue."[66] Studies emerged in calorie counting or "scientific eating," researching how to receive the maximum caloric or "energy" content from meals.[67] By the late 1890s, in addition to Taylor in the United States, researchers in France, Germany and Italy were developing ways to best measure and utilize the body's energies. Much of this took the form of breaking down bodily processes, internal and external, into their constituent elements.[68] The most famous of these, Eadweard Muybridge, published a series of body-in-motion studies in the late 1870s.[69]

Unlike most of his contemporaries, Sargent was more interested in the measurements that bodies could aspire to rather than the ones they actually possessed.[70] He believed that these machine measurements were accurate gauges of students' strengths and weaknesses; yet the machines themselves also served as the best way to achieve symmetrical development. An illustration of this is Sargent's anthropometric chart for Eugen Sandow, an Austrian strongman famous in America. The chart, which included the standard forty measurements that Sargent took from each student, shows Sargent's "perfect symmetry" goal realized. Sandow is far to the right of the middle line, meaning his measurements are largely 90% greater than that of other individuals measured. Further, when connected, the individual measurements follow an almost perfect line reaching from the top of the

chart to the bottom, excluding deviations in knee, shoulder, and elbow strength.[71] Many of Sandow's admirers cited this muscular symmetry as proving his physical perfection. For Sargent, the strongman's symmetry also proved the efficacy of training with machines.[72] Sandow was widely recognized as having "a machined figure," which could "be admired, imitated, and industrially reproduced."[73] Sandow courted this image, offering charts of himself in his books and showing readers how they might measure their own bodies in comparison. Further, he offered his own machine training system as an aid to such replication. Sandow's machine, a modified pulley-weight developer, was so associated with the performer that Marcel Duchamp, in his sculpture, *The Bride Stripped Bare by Her Bachelors, Even (The Large Glass)*, included a pulley machine he called a "Sandow," in order to create what Linda Henderson has called an "ideal human-machine analogy."[74] By publicizing Sandow's physique as ideal, Sargent reinforced the idea that the best machine-measured body was one produced by machine technology.[75]

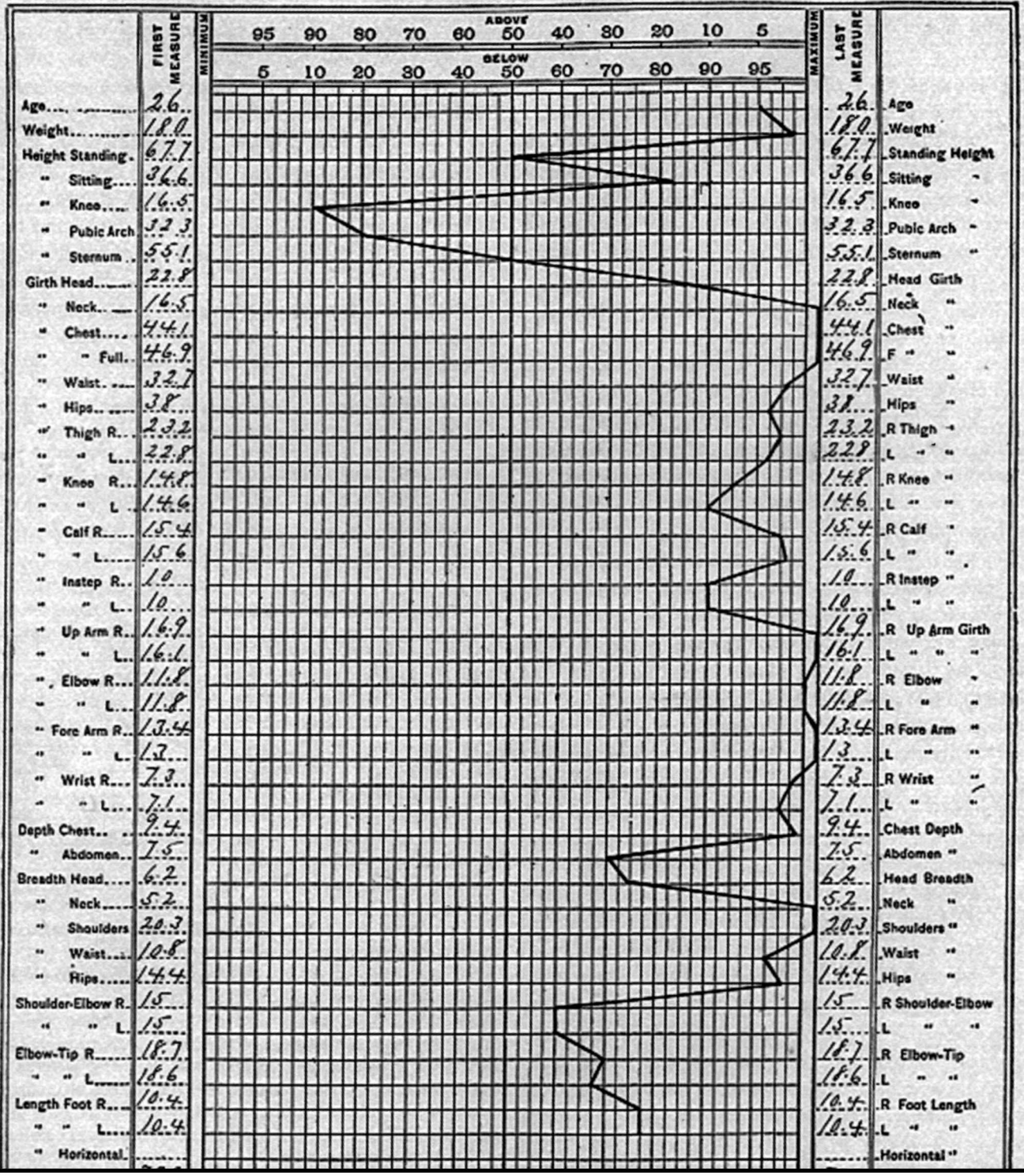
Sargent enjoyed wide influence during his fifty years in physical education. By his own estimation, he trained three thousand students from one thousand institutions.[76] His summer institute students in Cambridge included Booker T. Washington and prominent women like Helen Putnam of Vassar and Carolyn Ladd of Bryn Mawr.[77] Many Sargent students began systems similar to his at major universities. Edward Hartwell brought the system to Johns Hopkins, William Anderson brought it to Yale, and R. Tait McKenzie began a program at the University of Pennsylvania.[78] Luther Gulick, who guided YMCA training in the late nineteenth century, was also a Sargent student. Since YMCAs both bought Sargent's developing machines and adopted his measurement system, thousands of users learned to build bodies and gauge physical progress with Sargent machines.[79] Sargent also reached a wide popular audience through articles in *Scribner's Magazine*. In articles with titles like "The Physical Proportions of the Typical Man," he introduced anthropometry and mechanized training to readers, complete with physical charts, pictures of the measuring machines, and examples of ideal physiques.[80] The Columbian Exposition of 1893 further enhanced his popularity by featuring Sargent equipment. The display's location, inside a building where the words "Anthropology: Man and His Works" greeted visitors as they entered, highlighted the connection between man-made machines and crafted bodies. As visitors passed by the numerous ethnological exhibits listing cranium and skeletal measurements for ethnic groups, they likely considered how their own bodies might measure up. Sargent's exhibit allowed them to find out: they could step into an alcove and have their own anthropometric chart done. Chart in hand, visitors could then try out his machines for themselves, possibly re-measuring their muscles after a brief workout. This demonstrated the connection between healthy bodies and machines for an audience far beyond the walls of Harvard's Hemenway Gymnasium.[81]

If perhaps unaware of it, the majority of east-coast, middle and upper class Americans had some contact with Sargent's systems by the early 1900s. Many already knew of the machines by the time they visited the Chicago fair; according to one historian, Sargent's machines were widely sold in the United States after the Narragansett Machine Company marketed them in the 1890s.[82] According to Sargent's own estimation, by 1890 his machines were used by over one hundred thousand people in three hundred and fifty institutions across the country.[83] By 1910, physical training and physical evaluations had dramatically changed over fifty years. Previously, it had been commonplace for students to exercise on machines; anthropometric studies, if now designed for posture work or more eugenic "race building" data, continued to rely upon mechanized equipment to evaluate the physical form. Sargent's work effectively made machines co-conspirators in Americans' search for increased energy and physical health. No longer would individuals measure strength with boxing matches as they had at the beginning of Sargent's tenure in 1867. Along with sawing, rowing, and other manual tasks, boxing had come to seem an inefficient body builder to followers of Sargent's system. These traditional exercises may have made men appear strong—they may have even allowed men to do a great deal of work—but they did not build the regular scientific strength afforded by machines. [*Ed note: This belief was driven by faith, not fact.*] As Sargent told readers in his *Scribner's* article, it was not uncommon for exceedingly strong-looking men to fall into the 5% range once dynamometered. This weakness, Sargent observed, is

Opposite Page: A portion of Sargent's Anthropometric Chart for Eugen Sandow from *Sandow's System of Physical Training,* published in 1894.

ANTHROPOMETRIC CHART

Showing the Relation of the Individual in Size Strength Symmetry and Development to the Normal Standard



not apparent in the illustrations, nor would it be detected readily in the individual.[84] By making the strong body synonymous with machine training and measurement, Sargent made only those men with access to machines "developed" men. The Zander machines that appeared in American health spas in the 1910s would further solidify this connection between machines and physical strength, masculinity, and class.

Conclusion

Dudley Allen Sargent's health machine system offers important correctives to our understanding of American sport science and the history of technology. We commonly look to the early twentieth century, when college athletic programs, professional sports teams, and formal sports medicine training emerged, as the inception point for sport science. Yet while the field may not have begun to mature until this time, Sargent reveals that its birth was actually in the last decades of the nineteenth century. This man, though not a scientist in the formal sense, nonetheless codified a system of physical training based on machine-generated tension. And while his machines may have been technically primitive, his philosophies were not. It is important to remember that for their inventor, fitness machines were tools to excavate and build one's given internal energy—to make the human more human via the machine. By training the body with mechanized precision, Sargent hoped to create individuals who were alive to their fullest potential. If today our machine fitness systems seem to push beyond the boundaries of "human," creating bodies that are often more machine than "man," this was not the intention of their original inventors.

Further, exploring Sargent's machines reveals that stories of major technological inventions do not fully explain why Americans so eagerly welcomed new technologies into their lives. The late nineteenth and early twentieth centuries saw face-to-face contact replaced with distance communication, night replaced with day by artificial lights, horses and buggies replaced by speedy automobiles, and task labor replaced with time labor in regimented factories. And while these inventions give us important fodder in understanding how American life changed with the onset of new technologies, they overlook the small ways in which technology filtered into daily lives in a far more intimate fashion. Many of these intimate experiences came through the realm of sport. Historians have long explored connections between electrification and night baseball, steam travel and yacht racing, and mass manufacturing and sporting goods development.[85] They have spent less time looking at the ways in which some technologies actually became 'sports' in and of themselves, such as in machine-based resistance training.

The inventions of Sargent exposed American bodies—in health spas, city gymnasiums, and universities—to the benefits of mechanization in a way that was neither theoretical nor abstract. Individuals saw their biceps increase after using Sargent's lifting apparatuses. These lessons taught hundreds of thousands of individuals a powerful lesson about the benefits of an increasingly mechanized world. For individuals who saw machines as equally capable of regimenting life and improving health, it was likely difficult to be anti-mechanization. To understand why American technological enthusiasm has rarely waned over the last century, in spite of the dramatic and often unfortunate changes it has wrought, we would do well to give our health machines a second look.

Notes:

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1. For more information on how technology is used to surpass human limits in athletic performance see Blake, A. 1996, *Body Language: The Meaning of Modern Sport,* Lawrence & Wishart, London., pp. 140-150; Kearney, J. 1996, "Training the Olympic Athlete: Sports Science and Technology are Today Providing Elite Competitors with the Tiny Margins Needed to Win in World-Class Competition," *Scientific American,* vol. 275, no. 6, pp. 52-57; Heres, J. 1986, "Science and Technology in the Service of Sport," *Olympic Review,* vol. 222/223, pp. 268-270.

2. Bennett, B. 1947, *The Life of Dudley Allen Sargent and his Contributions to Physical Education,* dissertation, University of Michigan, p. 18.

3. Students who entered Harvard's professional engineering programs had this lesson reinforced academically as well. Under chemistry professor and President Charles Eliot, Harvard actively sought to improve professional training in engineering in the 1890s. For more information see the Harvard homepage or Bennett, *The Life of Dudley Allen Sargent,* p. 11.

4. In spite of Sargent's impact on physical training and health machines, there is no biography yet. One of the best sources for Sargent's life remains a fifty-year-old unpublished dissertation, Bennett's *The Life of Dudley Allen Sargent.* Other research on Sargent's contributions include Mrozek, D. 1983, *Sport and American Mentality, 1880-1910,* University of Tennessee Press, Knoxville; Cottrell, D. 1993, *Women's Minds, Women's Bodies: The Influence of the Sargent School for Physical Education,* dissertation, University of Texas at

Austin. For the quotation on Sargent's contributions see Bennett, B. 1948, *Contributions of Dr. Sargent to Physical Education,* State Teacher's College, North Dakota, p. 1. See also, Fred Eugene Leonard, *Pioneers of Modern Physical Training* (NY: YMCA Physical Director's Society, 1911), 95-103.

5. See Sargent, L. (ed) 1927, *Dudley Allen Sargent: An Autobiography, Lea* & Febiger, Philadelphia, p. 59.

6. For information on the popularity of European strongmen in America see Chapman, D. 1994, *Sandow the Magnificent: Eugen Sandow and the Beginnings of Bodybuiding,* University of Illinois Press, Urbana.

7. Sargent, *Autobiography,* pp. 60-61, 82.

8. Sargent was nineteen years old and had not finished high school when he took the job at Bowdoin. See Bennett, *The Life of Dudley Allen Sargent,* p. 16.

9. For a description of Bowdoin's early equipment see Bennett, *The Life of Dudley Allen Sargent,* p. 18.

10. Ibid.

11. Sargent blamed Windship's health lift for extending the life of heavy-lifting equipment. He claimed they were "like mushrooms after the rain," springing up "in parlors and offices and schools everywhere." As a result, we can infer that colleges like Bowdoin, Yale, and Harvard kept their own out-of-date heavy equipment because it was similar to Windship's. There is no evidence that they invested significantly in health-lift machines, as these machines had weights adjustable for even the weakest individual to practice. For information on Sargent's views of Windship see Sargent, *Autobiography,* p. 97; for the quotation on torturous machines see p. 95.

12. Sargent was not the first to bring systematic physical education to the college level. Colleges had hired trained physical educators since the early 1820s. Edward Hitchcock, Jr. is generally credited with being the first formal physical educator at the collegiate level. He was appointed Professor of Hygiene and Physical Education at Amherst College in 1861. For more information on Hitchock see Whorton, J. 1982, *Crusaders for Fitness: The History of American Health Reform,* Princeton University Press, Princeton, p. 282.

13. Sargent, *Autobiography,* p. 95.

14. Ibid., p. 108.

15. Ibid., p. 109.

16. Ibid., p. 30.

17. Ibid., p. 60.

18. Bruce Bennett believes that Blaikie reinforced Sargent's ideas about symmetrical development and mechanized training. It seems almost certain that Sargent's decision to open a gymnasium in New York came as a result of Blaikie's recommendation in *Harper's Magazine.* For Blaikie's call for a New York gymnasium see Blaikie, W. "Free Muscular Development," *Harper's Magazine,* May 1878, pp. 915-24. For information on the connection between Blaikie and Sargent see Bennett, *The Life of Dudley Allen Sargent,* p. 27.

19. Blaikie, W. 1879, *How to Get Strong and How to Stay So,* Harper & Brothers, New York, pp. 11-12.

20. Blaikie, *How to Get Strong,* p. 75. Sargent recognized that in rare cases, one could achieve a perfect body without machines. He often praised Eugen Sandow, an Austrian-born strong man, as having the perfect physique. And while Sandow used pulley weights, some even of his own design, he primarily lifted barbells. Sandow, however, was the exceptional individual born with evenly dispersed musculature. Most students required machines to achieve his measurements. *[Ed Note: Actually, what "students" or anyone else required to achieve Sandow's measurements was years of progressive resistance with free weights and/or machines for the entire body. To reach Sandow's rare level of aesthetically pleasing shape, one also needed the bone structure to suport his "evenly dispersed musculature. "]*

21. For more information on early Health Lift inventors George Windship and David Butler see de la Peña, C. T. 2001, "The Machine Built Modern Body," in *Powering the Modern Body: Theories of Energy Transfer in American Medicine, Science, and Popular Culture, 1875-1945,* diss., University of Texas at Austin, pp. 18-74.

22. According to Sargent, the student body "as a whole" ignored the Hemenway before he arrived. See Sargent, *Autobiography,* p. 167.

23. Sargent describes Harvard's old gymnasium as similar to Yale's. For a description of Yale's gymnasium when he arrived in 1873 see Sargent, *Autobiography,* p. 138.

24. Hartwell, E. 1884, "The Rise of College Gymnastics in the United States," in *Special Report by the Bureau of Education. Educational Exhibits and Conventions at the World's Industrial and Cotton Centennial Exposition at New Orleans, 1884-85,* p. 670. For a description of Hemenway's main hall, which measured 125 X 113 feet and the facilities within it, see Bennett, *Life of Dudley Allen Sargent,* p. 46. For a contemporary discussion of the gymnasium's features see "Athletics and Gymnastics at Harvard," 1883, *The Wheelman,* vol. 2, pp. 417-423.

25. He included thirty of his own appliances at the New York Institute that he began in 1878 and continued to run until 1879, even after beginning at Harvard. Most of these, as had his machines at Bowdoin, revolved around a system of pulleys and variable weights. He advertised his studio to men, women, and children, reflecting each machine's versatility. For more information see Bennett, *Life of Dudley Allen Sargent,* p. 28.

26. At Bowdoin he built an early exercise machine by using window weights pulled over wooden roller that students would lift with an iron handle. See Bennett, *The Life of Dudley Allen Sargent,* p. 33.

27. "Athletics and Gymnastics at Harvard," p. 422. For a complete list of Sargent's "developing appliances" at the Hemenway gymnasium see Bennett, *The Life of Dudley,* Appendix A, pp. 268-269.

28. "Athletics and Gymnastics at Harvard," p. 422.

29. Sargent, D.A. 1880, "The Apparatus of the Hemenway Gymnasium," *The Harvard Register,* 1, p. 45.

30. Corbusier is largely credited for codifying the machine aesthetic in design. See Le Corbusier, 1927, *Towards a New Architecture,* Payson & Clarke, New York.

31. See advertisement for "Professor D. L. Dowd's Home Exerciser'"from 1886, in *Sporting Goods: Sports Equipment and Clothing . . . and Ornaments,* 1976, historical reprint, American Historical Catalog Collection, The Pine Press, Princeton.

32. Narragansett of Rhode Island later became Sargent's official machine producer. Bennett argues that Sargent's no-patent agreement with Harvard prevented him from ever making significant money from his machine designs. For a discussion of this see Bennett, *The Life of Dudley,* pp. 140-145.

33. Sargent, *Autobiography,* p. 151.

34. For information on Sargent's prescribed exercises see Sargent, *Autobiography,* p. 151.

35. Archibald Maclaren from Oxford said that exercises should mimic natural movements in his 1869 book, *A System of Physical Education: Theoretical and Practical,* Clarendon Press, Oxford. For more information on Maclaren's ideas in relation to Sargent's see Bennett, *The Life of Dudley Allen Sargent,* pp. 34-35.

36. Sargent, D.A. 1900, "The Inomotor: A Fundamental Mechanism for a New System of Motor Vehicles, Testing Apparatus and Devel-

oping Appliances," *American Physical Education Review,* vol. 5, p. 312. Sargent explained in 1890 that actual labor produced "good physical results in certain directions" but only a system of exercises that resembled actual labor could "supplement the deficiencies of one's occupation" and "develop him where he is weak." Sargent, D.A. 1889, "The System of Physical Training at the Hemenway Gymnasium," in *Physical Training: A Full Report of the Papers and Discussions of the Conference Held in Boston in November, 1889,* ed. I. Barrows, Press of George H. Ellias, Boston, p. 62.

37. "Athletics and Gymnastics at Harvard," p. 420. For the praise concerning the abdominal machine see p. 422.

38. For information on Sargent's battle with the faculty over inomotor training see the letter from Sargent to the President and Fellows of Harvard College dated March 25, 1905 in the Harvard archives. Letter quoted in Bennett, *The Life of Dudley Allen Sargent,* p. 147.

39. Sargent described one young bicyclist who won several competitions but nonetheless died of consumption after graduation. Sargent attributed this to the student's unwillingness to train his arms and chest, as the student had once told him that "arms and chests do not win bicycle races." See Sargent, "The Inomotor,' p. 315.

40. Sargent, "The Inomotor," p. 314.

41. Speakers who came to the Hemenway also echoed the message that machines could positively impact nerve force. Dr. Walter Channing of Boston gave a lecture at the Hemenway on "The Relation of Physical Training to the Nervous System" in which he described the perfect operation of the "nervous mechanism." Although man had a tendency towards degeneracy, he explained, these evils could be corrected by systematic physical training. One assumes he meant the kind of systems available at the Hemenway. See Channing, W., "Value of Physical Training," unspecified source, Sargent archives, Harvard University.

42. Sargent described this by saying that "the momentum acquired by the rapid revolution of these wheels will flex and extend the arms, trunk and legs for a considerable time without any active efforts, thus improving the returning circulation of the blood and removing the cause of fatigue when it has been produced." See Sargent, "The Inomotor," p. 323.

43. *Harvard Catalog,* 1880-81, p. 216. Harvard faculty and staff could also use the Hemenway's facilities without charge, except for a small locker fee. See Bennett, *The Life of Dudley Allen Sargent,* p. 48. Harvard did not require physical education for freshmen until after Sargent retired in 1919. *Athletic Committee Minutes* 1, p. 69.

44. From 1879 to 1885 there were roughly 1000 students enrolled in Harvard each year. This number increased to 2000 by 1904. See Bennett, *The Life of Dudley Allen Sargent,* p. 78.

45. See Bennett, *The Life of Dudley Allen Sargent,* p. 49.

46. *Annual Reports of the President and Treasurer of Harvard College,* 1883-84, p. 31. Quoted in Bennett, *The Life of Dudley Allen Sargent,* p. 50.

47. Letter from Edward E. Allen, instructor at the Perkins Institution for the Blind, pamphlet in Sargent archives, Harvard University.

48. Barrett, W. 1887, "Social Life at Harvard," *Lippincott's Monthly Magazine,* vol. 39, p. 157.

49. For information on Sargent's work with women see Cottrell, *Women's Minds, Women's Bodies* and Bennett, *The Life of Dudley Allen Sargent,* chapter 9, pp. 98-117.

50. Sargent developed his machines at Bowdoin where he worked with young men. In addition, even his New York gymnasium where he admitted women and children as well was geared primarily towards men. He had more hours for men to use the facilities, remembering that at 8 o'clock businessmen and professional men came on the way to work for exercises. Women used the facility in late morning and after a break for consultations, children came in from 2 to 5 o'clock. Before supper was reserved for businessmen and a young men's group exercised from 8 to 10 o'clock. This left men at least five hours on the equipment while women had about two. See Bennett, *The Life of Dudley Allen Sargent,* p. 29.

51. Sargent first used this measuring system in 1873 at Yale when he used chins and dips to test efficiency of students in handling their weight, preliminary test for heavy gymnastics work. See Sargent, D.A. 1913, 'Twenty years' Progress in Efficiency Tests,' *American Physical Education Review,* vol. 63, p. 454.

52. See Bennett, *Contributions of Dr. Sargent,* p. 3.

53. There is little written about Sargent's measuring machines. One of the best accounts is Roberta Park's in her survey of physical trainers. See Park, R. 1992, "Physiologists, Physicans and Physical Educators" in *Sport and Exercise Science: Essays in the History of Sports Medicine,* ed. J. Berryman, University of Illinois Press, Urbana, p. 153.

54. These three machines are described in one of Sargent's popular articles in addition to his regular medical texts. See Sargent, D.A. 1887, 'The Physical Proportions of the Typical Man,' vol. 2, no. 1, p. 7. For a more specialized description of the equipment see Sargent, D.A. 1887, *Anthropometric Apparatus with Directions for Measuring and Testing the Principal Physical Characteristics of the Human Body,* Dudley Allen Sargent.

55. For more information on these three machines see Sargent, *Anthropometric Apparatus,* pp. 12-14.

56. Dr. Edward Hitchcock at Amherst measured students weight, height, finger reach, chest girth, lung capacity, and strength in 1869. According to Bruce Bennett, Hitchcock's system had little influence on other schools. See Bennett, *The Life of Dudley Allen Sargent,* p. 6.

57. Carl von Linneaus is credited as the first anthropometrist. He wrote *Systemanatural* in 1735. For more information see Haller, J.S. 1971, *Outcasts from Evolution: Scientific Attitudes of Racial Inferiority, 1859-1900,* University of Illinois Press, Urbana, p. 4.

58. Anthropology inherited much anthropometric equipment in 1865 after the Sanitary Commission's studies, as academics set out to posit their own arguments about racial superiority or equality, depending on their views. See Dillingham, 1910, "Changes in Bodily Form from Descendents of Immigrants," Immigration Commission, Washington, 61st Congress, Second Session. Senate document no. 208, Government Printing Office.

59. See Haller, *Outcasts from Evolution,* p. 30.

60. According to Roberta Park, Sargent was the most prolific anthropometry promoter between 1880 and 1900. He published charts and directions for taking measurements and actively sought to sell his "developing appliances." In addition, the "Sargent system" was one of only three that were extensively discussed at the 1889 Boston Conference on Physical Training. See pp. 150-152 in Park, R. 1989, "Healthy, Moral, and Strong: Educational Views of Exercise and Athletics in Nineteenth-Century America," *Fitness in American Culture: Images of Health, Sport, and the Body, 1830-1940,* ed. K. Grover, Margaret Woodbury Strong Museum, New York, pp. 123-168.

61. See, for example, Swanson, R. and Spears, B. 1995, *History of Sport and Physical Education in the United States,* McGraw-Hill, New York, pp. 183-184.

62. Sargent did his studies between 1880-1900, a time historians have defined as "the golden age of anthropometric measurements." See Bennett, *The Life of Dudley Allen Sargent,* p. 174.

63. Linking race to physical ability is still very much a controversial issue as revealed by the mixed reception of John Entine's recently published (2000) *Taboo: Why Black Athletes Dominate Sports and Why we are Afraid to Talk About It,* Public Affairs, New York. In the nineteenth-century, it was common to regard dark-skinned people as "pure" physical types against which white bodies could be measured. Sandow, the nineteenth-century Austrian strongman, compared himself favorably to his muscular, dark-skinned students. In 1905 he traveled to Dutch Java, Japan and British India and covered the story for his own *Sandow's Magazine,* 1905, vol. 117, pp. 343-44. He also discussed Indian fitness programs in the *Daily News,* 1905, vol. 19. For more information see Budd, M. 1997, *The Sculpture Machine: Physical Culture and Body Politics in the Age of Empire,* MacMillian, Houndsmill, p. 83.

64. For more information on Taylor and his program see Banta, M. 1993, *Taylored Lives: Narrative Productions in the Age of Taylor, Veblen, and Ford,* University of Chicago Press, Chicago. For information on the measurement and recording of time see Eichbert, H. 1982, "Stopwatch, Horizontal Bar, Gymnasium: The Technologizing of Sports in the 18th and Early 19th Centuries," *Journal of the Philosophy of Sport,* vol. 9, p. 45.

65. One of Taylor's early studies involved workers at Bethlehem Steel who were "taught" to load three times as much pig iron in a single day thanks to Taylor's scientific management system. See Taylor, F.W. 1911, *Principles of Scientific Management,* Harper and Brothers, New York. Part two discusses his actual experiments.

66. Rabinbach, A. 1990, *The Human Motor: Energy, Fatigue and the Origins of Modernity,* Basic Books, New York, p. 23.

67. For information on "scientific eating" see Whorton, J.C. 1989, "Eating to Win: Popular Concepts of Diet, Strength, and Energy in the Early Twentieth Century," in *Fitness in American Culture: Images of Health, Sport and the Body, 1830-1940,* ed. K. Grover, p. 95.

68. In the 1880s, the Frenchman Etienne-Jules Marey experimented with internal body energy through his "physiological time." He experimented with photography, inventing a portable inscriptor to measure the way body parts moved in accomplishing a task. He was able to analyze the time it took a nerve impulse to travel to a muscle and get a reaction, thereby recommending ways to make movements more efficient. For more on Marey see Rabinbach, *The Human Motor,* pp. 93-94.

69. Taking pictures at 1/500th of a second allowed Muybridge to remove the mystery behind the movement of beautiful bodies. Along with Thomas Eakins at the University of Pennsylvania, Muybridge made 100,000 negatives of individuals running, weight lifting, and doing the high jump to discover the secret behind fluid motions. For more info see Mrozek, *Sport and American Mentality,* and Rabinbach, *The Human Motor,* p. 101.

70. Some of the researchers gave bleak forecasts for the modern body based on their measurements. Marey's view was especially unfortunate: he believed humans were unable to learn efficient means of movement and, as a result, would suffer inescapable energy loss. See Rabinbach, p. 118.

71.Sargent explains the symmetry ideal in "The Sargent Anthropometric Charts: Descriptive Circular," Sargent archive, Harvard University.

72. One newspaper article that appeared after Sandow's 1893 Trocadero performance commented, "what a wretched, scrawny creature the usual well-built gentleman is compared with a perfect man. Sandow, posing in various statuesque attitudes, is not only inspiring because of his enormous strength, but absolutely beautiful as a work of art as well." In addition, Professor R. Lankester, director of the natural history branch of the British Museum, made a plaster Sandow for the museum's exhibit on the "perfect type of European man." For information see Dutton, K.R. 1995, *The Perfectible Body: The Western Ideal of Male Physical Development,* The Continuum Publishing Company, New York, p. 124.

73. Budd, *The Sculpture Machine,* p. 116.

74. Henderson, L.D. 1998, *Duchamp in Context: Science and Technology in the Large Glass and Related Works,* Princeton University Press, Princeton, p. 159.

75. While the dynamometer ostensibly was to measure force, students often were more fascinated by the machine's working than by its results. John Harvey Kellogg used the dynamometer in the early 1900s and commented that "the procedure is a fascinating one, and the machine itself, with its mode of operation, often proves more absorbing to the newcomer than his own performance." Kellogg, J.H., 1906, *The Battle Creek Sanitarium Book,* Battle Creek, Michigan, p. 105.

76. For a detailed list of Sargent's student enrollment see Sargent, *Autobiography,* p. 212.

77. Student list from *Harvard Catalog,* 1887-1888, quoted in Bennett, *The Life of Dudley Allen Sargent,* p. 86.

78. McKenzie carried on Sargent's traditions. He explained in 1905 that "A strong, healthy, symmetrical body for the mass of our students has been our primary object," See "The Physical Side of College Men," 1905, *The Illustrated Sporting News,* vol. 5, p. 4. Mrozek says he had a "virtual obsession with the symmetry of the whole figure." See Mrozek, *Sport and the American Mentality,* p. 72.

79. Whorton, *Crusaders for Fitness,* p. 284. For more information on the YMCA's use of Sargent's system see Smith, J.G. 1899, "History of Physical Training in New York City and Vicinity in the Young Men's Christian Associations," *American Physical Education Review,* vol. 4, p. 306.

80. Sargent, "The Physical Proportions,"pp. 3-17.

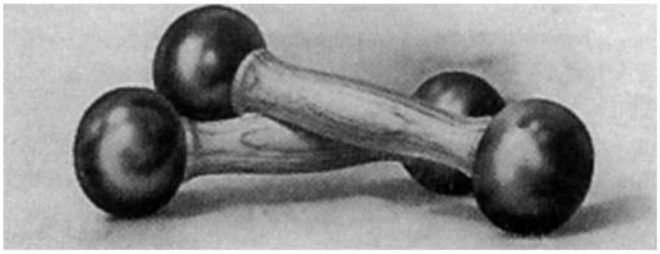
81. *Official Catalogue of Exhibits and Descriptive Catalogue, World's Columbian Exposition, Department M. Anthropological Building, Midway Plaisance and Isolated Exhibits* 1893, W.B. Conkey Company, Chicago, pp. 20-22.

82. Park, "Healthy, Moral, & Strong," p. 152.

83. Sargent, "The System of Physical Training at the Hemenway Gymnasium," p. 65.

84. Dudley Allen Sargent, "The Physical Proportions," p. 15.

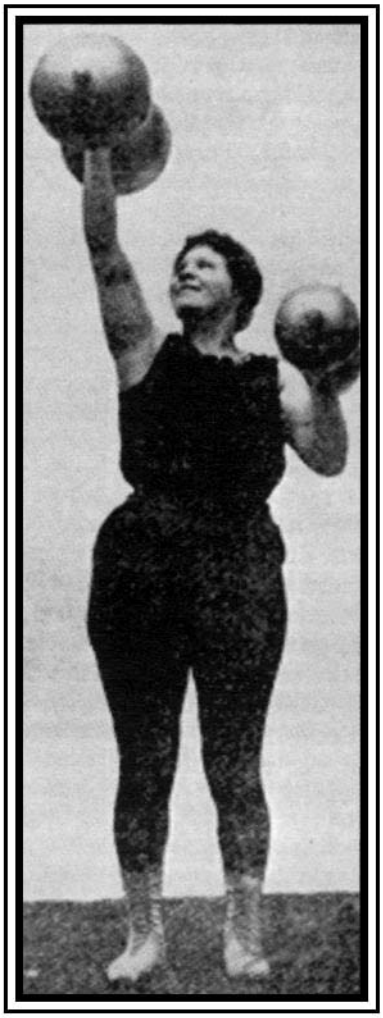
85. See, for example, Betts, J.R. 1969, "The Impact of Technology on Sport in the Nineteenth Century," *Journal of Health, Physical Education, and Recreation,* vol 40, pp. 87-90.



Miss Apollina

by E. Rouzier-Dorcières from L'Éducation Physique, May 30, 1906

Translated by David Chapman



Apollina poses with dumbells in *L'Education Physique.*

Who in the athletic world does not know Miss Apollina?[1]

She is like a living image of strength, and she certainly does not sigh like the pallid lady of the decadent poets:

I perish on my broken stem ...

Miss Apollina, I can assure you, does not want to perish on her broken stem like a bloodless flower, for she is determination and energy incarnate packed into a powerful frame.

Elise Gillaine Herbigneaux—alias Miss Apollina—was born in Tongrine, a little village in the [Belgian] province of Namur on March 30, 1875. Her father is a brewer by trade. He has eight children. It is difficult to look after eight children when one is working, especially when a little imp like Apollina is counted in the bunch—she who would play hookey, romp around wildly, participate in violent games in the open air, and thanks to her willful attitude, tussle with the boys. In addition, she grew like Topsy. At thirteen years of age, she cheerfully took on exhausting jobs: she loaded and unloaded wagons with her own mighty and tireless arms. At fifteen years, at a time when the love of dances impels girls in the direction of village festivals, Apollina chose to imitate strongmen, dreaming only of strength and athletic prowess.

Alone and without anyone's knowledge (and regardless of how odd the activities to which she devoted herself) she trained in an attempt to imitate the feats of the Antwerp strongman, Jean Larrey. His act had been a revelation to her, and Apollina's deeply felt love of strength was confirmed from that moment on. She would become a strongwoman! The peaceful family of father Herbigneaux demurred more than a little when this plan was expressed, but Apollina wanted deeply what she yearned for. Did she not already come in secret to triumph over the barbell of the Dutchman Salomon, the "chain breaker" who, during a performance in Liege allowed his "equipment" to be dragged within reach of the little girl?[2] Her earnest resolve triumphed over all resistance, and now she dreamed of entering a profession where members of the sex which one is accustomed to call "weak" are seldom found.

The gray Belgian sky was too dark and oppressive for the plans that she wanted to put into effect. She needed Paris—grand Paris—the city where anyone who has brains and muscles can break through to the sunlight. Thus, she went to Paris. There, the way was harsh and paved with disillusionment. The masses could hardly imagine a strongwoman; their idea of a woman was all wrapped up with slenderness and sentimentality, and in consequence, Apollina went through some bitter moments of hopelessness. It hardly mattered! The lines which furrowed her brow denoted an unswerving will, so she pursued her goal. She was dreaded in the world of strength because she was so fierce in her wrestling engagements as to allow little opportunity for fakery. She frequented the Arasse Gymnasium in the Rue de Ménilemontant, which was at that time the meeting place of all the wrestlers and amateurs

of Paris, and she trained with Roul de Cahors, Walford , Constant le Boucher, Schakmann, and Aimable de la Calmette.

Finally, after much effort, Fate, which is sometimes motivated by an idea of justice, turned a kindlier face toward Apollina. She left for Hamburg and returned victorious from a championship that was organized there. She emerged world's champion in international competitions in Liege, Brussels, Ghent, Charleroi and Mons where she defeated forty women holding that title which she defeated in wrestling competitions and which has never been taken away.

Next, England attracted her. She toured London and the principal cities, where she raised the audience's enthusiasm, for she often fought amateurs whose weight (11 stone) is the equivalent of around 150 French pounds.

Such is Apollina—a true sportswoman who adores her profession. She lives only for it. Although she has another person (aside from her husband) to whom she is devoted: a little boy, a lost child, a child whom she found in London and who was rightly and legally adopted. The child is now three years old, and Apollina, who is an excellent mummy, is raising him. If he follows the lessons of his adoptive mother, he will later become a famous professor of strength.

Such is the woman. Does it not appear that she well deserved a special mention in our columns? For she is an original: a rarity as well as an object-lesson.

Here are Apollina's measurements and feats in statistical form which were kindly supplied by her husband, Mr. Prud'homme.

Measurements: Height, 1 m. 65 (5'4"); neck, 0 m. 38 (14.96"); shoulder width, 0 m. 53 (20.86"); chest circumference, 1 m. 06 (41.37"); arm length, 0 m. 68 (26.77"); biceps at rest, 0 m. 35 (13.77") ; biceps flexed, 0 m. 39 (15.35"); forearm at the bend of the arm, 0 m. 30 (11.81"); thigh, 0 m. 66 (25.98"); calf, 0 m. 41 (16.14"); weight, 84 kg (185.18 lb.).

Feats: Steady arm extension of 20 kg (44 lb).; throwing a 20 kg. weight and catching it by the little rim; one-hand snatch of 48 kg (105.8 lb). in a single motion; one-hand snatch of 35 kg (77.16 lb). in a single motion and without bending the arm [*Ed Note: one-armed swing*]; 50 kg (110 lb). barbell lifted eight time with two hands; lifting an 80 kg (176 lb) barbell in two stages with two hands without spreading the legs or jumping beneath the barbell; lifting a 250-kg (550.15 lb) load on her shoulders and walking around and dancing with it.

Apollina regularly wrestled men in her stage performances.

--Image from *L'Education Physique.*

Notes:

1. Apparently, in 1906, the answer to the author's rhetorical question was "just about everyone." Although her feats are quite remarkable and she certainly deserves a little fame, the article makes it appear that Apollina was a renowned athletic phenomenon who would be familiar to everyone. In fact, no one I contacted had ever heard of the woman. One can only assume that she was a relatively local phenomenon or (more likely) a flash in the pan.

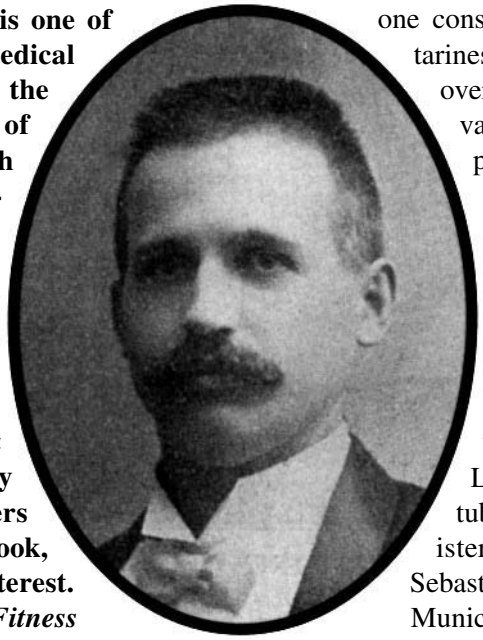
As for the spelling of her name, there is also some confusion as her name is spelled two different ways in the same article. The title spells the name "Miss Apollina," but in the text her name is written as "Miss Appolina." Since the first version seems closer to the original "Apollon," I have decided to use it in my translation.

2. I have been unable to find any information on Salomon or his act. Chain breaking was a populat stunt among early strongmen. It was also easy to fake. Biographies of most of these men can be found in *Les Rois de la Lutte* by Edmond Desbonnet (Paris: Librairie Athlétique, 1910).

Benedict Lust, Naturopathy, and the Theory of Therapeutic Universalism

James C. Whorton

Ed Note: Dr. James C. Whorton is one of America's most distinguished medical historians. As a faculty member in the medical school at the University of Washington in Seattle, his research over the past two decades has primarily focussed on the often antagonistic relations between the worlds of alternative medicine, physical culture, and traditional medicine. In addition to his latest book—*Nature Cures: The History of Alternative Medicine in America* (New York: Oxford University Press, 2002)—many *IGH* readers would find Dr. Whorton's earlier book, *Crusaders for Fitness,* of great interest. Published in 1982, *Crusaders for Fitness* details the history of the pioneers of fitness and includes discussions of such major figures as Bernarr Macfadden, Sylvester Graham, William Alcott and others. Much of the research for *Nature Cures* was done here at the Physical Culture Collection at the University of Texas, Austin; we were delighted to be able to assist Dr. Whorton.



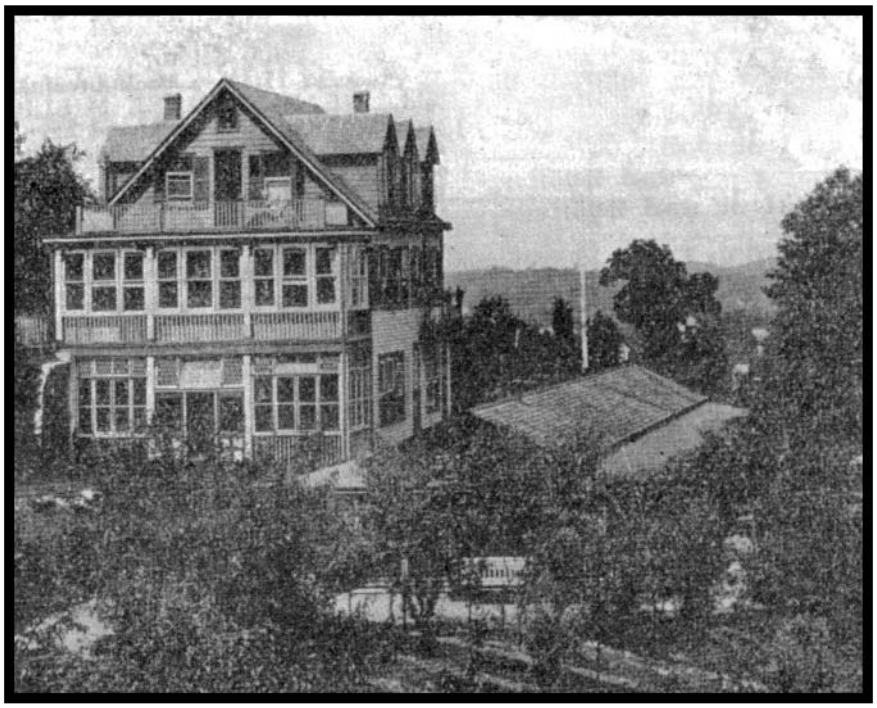
Benedict Lust in 1911.

Among the most influential forces nurturing the concept of complementary or integrative medicine in America in recent years has been the system of naturopathic medicine. Yet of all the major unconventional approaches to health care now flourishing in the United States, naturopathic medicine stands apart as the only system not to have been accorded serious attention by historians. This neglect seems all the more curious when one considers that the notion of complementariness that has blossomed so profusely over the last decade is one that has pervaded naturopathic thought from the profession's beginnings. It was, in fact, an essential element of the guiding philosophy formulated by founder Benedict Lust, a philosophy that he described as "Therapeutic Universalism."

Naturopathy, as the practice was originally known, developed in the late 1890s under the direction of Lust, a German youth saved from tuberculosis through treatments administered by the renowned water-curist Sebastian Kneipp at his institution near Munich. Determined to honor his rescuer by serving as his emissary to the New World, Lust journeyed to New York City in 1896 to preach and practice the Kneipp system in America. Almost immediately, however, he began enlarging on Kneipp's methods with the addition of dietetics, herbs, massage, electrotherapy, sun baths, and other elements of the German nature cure tradition. Soon, the musculoskeletal manipulations of early osteopaths and chiropractors were adopted as well, and by 1901 Lust had decided upon a name for his broad amalgam of therapies—naturopathy. That year he opened The American School of Naturopathy in New York, and the following year launched the Naturopathic Society of America; he would serve as the organization's only president until his death in 1945.[1]

The name naturopathy was intended to convey the principle that the cure of any case of illness is ulti-

mately accomplished by the healing power of nature that resides in every individual, a power that should be supported and stimulated by the agencies of the natural world. Strictly speaking, of course, naturopathy means "natural disease," not "natural healing," and from the beginning the term was criticized, even by naturopaths, as misleading. Nevertheless, the bedrock of naturopathic etiology was that indeed "natural disease" is the root of all illness, because bodily dysfunction can invariably be traced to violations of nature's rules of right living. This view was graphically presented in a "tree of disease" drawn by naturopath Henry Lindlahr in the 1910s. There one was shown the full range of human infirmities, from colds to cancer, growing out of a trunk impaired by what was labeled "Accumulation of Morbid Matter in The System." The soil from which the trunk of physical impurity rises is that of "Violation of Nature's Laws" of diet, exercise, and other components of hygiene, violations occurring because of humanity's ignorance, indifference, lack of self-control, and self-indulgence. Where allopathic doctors blamed disease on insults to the body from outside, particularly infection with microbes, early naturopaths saw all sickness originating within the body ("Germs" appear among the tree's branches, but they are labeled as a disease, not a cause). Rather than being the innocent victim of some alien pathologic entity, each person was responsible for attacking his own body with unnatural habits of life; illness was nature's punishment for the self-abuse. From that perspective, "natural disease" was an apt interpretation of naturopathy.[2]



Benedict Lust began the Yungborn Nature Cure in 1896 on 60 acres in the Ramapo Mountains near Butler, New Jersey. In 1911, when this photo of the main recreation building was taken, Yungborn reportedly had more than 100 guests taking the nature cure.

Still, the preferred translation was "natural healing." Naturopathy, as Lust defined it, was an approach to healing that utilized "the beneficent agency of Nature's forces." Those forces could be administered in every form from water and herbs to electricity and sunlight, but in every case operated the same way, by assisting nature to remove the "Accumulation of Morbid Matter" in the body. As Lust defined it in 1903, naturopathy was a system of "Pathological Monism and Therapeutic Universalism"; it recognized only one disease—inhibition of the body's "natural power"—but a virtual infinity of healing agents—all of nature's benevolent forces.[3] Grand as it already sounds, Therapeutic Universalism nevertheless extended far beyond the utilization of all the natural modalities in the universe. Indeed, the final goal of natural treatments, as Lust saw it, was not the elimination of physical disease, but the restoration of human beings' appreciation of their proper place in the natural order of the cosmos. The "principal object" of naturopathy, he asserted, was "to re-establish the union of man's body, brain, heart and all bodily functions—with nature." Advocating what a later generation would call holistic healing and ecological medicine, Lust required matriculants at his American School of Naturopathy to study not only herbalism and hydrotherapy, but also such subjects as Self-Culture, Mental Regeneration, Pure Love, Soul-Marriage, Mental and Divine Healing, Spirit-Unfoldment, and God-Consciousness.[4]

As the course on God-Consciousness suggests, early naturopathy was energized nearly as much by religious currents as medical ones. Prerequisite for the ideal of union of body, brain, and heart with nature was the awareness that people are beings within a universe created and governed by a beneficent God, and that the laws

of health are divine commandments whose honoring earns favor from the Creator and whose violation brings deserved punishment. Lust looked all the way back to the Garden of Eden to frame his physical theology. There, he sermonized, "man did not suffer from sickness," but lived in perfect health on "what mother Earth produced." Then came the Fall, an act of disobedience which involved, after all, "a forbidden meal," an act of unnatural hygiene. Adam and Eve were expelled, and "man no more remained in direct connection with the earth....In the same measure as man grew more unnatural and sinful, sickness and all misery arose."[5]

The unnatural and the sinful were linked in the naturopathic worldview by practitioners' commitment to vitalism, the belief that life derives from and is sustained by some power or spirit that transcends the chemical and physical forces that govern the phenomena of the inorganic world. Natural methods worked because they acted upon the vital force resident within every human being, stimulating it to restore the body to wholeness. But that force, naturopaths proclaimed, was not merely vital; it was in fact divine spirit, every living thing's own parcel of "the Omnipotent Power, which created the universe." It was Therapeutic Universalism indeed![6]

If the vital force were the same as omnipotent power, it followed that the misery generated by unnatural living could as readily be spiritual as physical. In one naturopath's telling, "transgression of natural law" was responsible not just for all bodily infirmity, but "all...poverty, misery, worry, vice and crime" as well. And by the same token, the perfection attainable through living in accord with nature was spiritual and not just physical. With adoption of the naturopathic lifestyle, Edward Purinton promised, "there must grow within every human [not only] Massive Muscle, Surging Blood, Tingling Nerve, Zestful Digestion, Superb Sex, Beautiful Body, [and] Pulsating Power," but also "Sublime Thought,...Glorious Freedom, Perpetual Peace, Limitless Unfoldment, and Conscious Godhood. May These Things Be!"[7]

Nature cure, in short, was, as Lust put it, "a great sociological movement," a movement that "falls in line with Christ's petition, Thy kingdom come!'" In the kingdom to be created by nature cure, one would find "the new man, the new woman, the new citizen of the coming era, the era of peace and good will to all mankind." The naturopath, another practitioner testified, "believes in his system not only as a science and an art, but as a religion that will, if followed, lead humanity to the heaven of health and happiness."

In that context, it was possible for naturopaths to propose in complete seriousness that the first and still the greatest adherent of the art was none other than Christ; Jesus, one asserted, was "a most proficient Naturopath." Imagining that sort of pedigree, it made sense for Lust to set forth the revolutionary import of his system by observing that a great spiritual upheaval had occurred in Western civilization approximately every 500 years, beginning with Christ and followed by Muhammad, the Crusades, the Reformation—and now naturopathy.[8]

Naturopathy expected to achieve what earlier religious movements had vainly attempted to do by recruiting errant humanity to what Lust called the "Regeneration Cure," a regimen of right living that restored physical strength and energy while also bringing about a state of "spiritual...rejuvenation." Toward that end of regeneration of body and soul, naturopathy's founder established in rural New Jersey a nature camp of sorts that he called the Yungborn, or fountain of youth. There clients spent their days hiking, sunbathing, mudbathing, frolicking nude in mountain streams, and subsisting on vegetable foods and herb teas. As one satisfied patron summarized the regeneration experience,

> *Mister Lust can make you well,*
> *if you will let him lay*
> *The plans for what you eat and*
> *wear, and his commands obey.*
> *He's got an Eden out of town,*
> *where you will get no meat,*
> *And walk 'mid trees as Adam*
> *did, in birthday suit complete;....*
> *Roast beef, cigars, and lager-*
> *beer you'll never want again,*
> *When you've been healed at*
> *[Yungborn], by fruit, fresh air and rain.*
> *Its very cheap as well as good—*
> *this wondrous Nature Cure,*
> *And if you take it home with*
> *you, its blessings will endure;*
> *For all the ills of all mankind,*
> *the cheapest and the best*
> *Is Mister Lust's great Nature*
> *Cure--just put it to the test![9]*

Yungborn exemplifies the curious mix of wis-

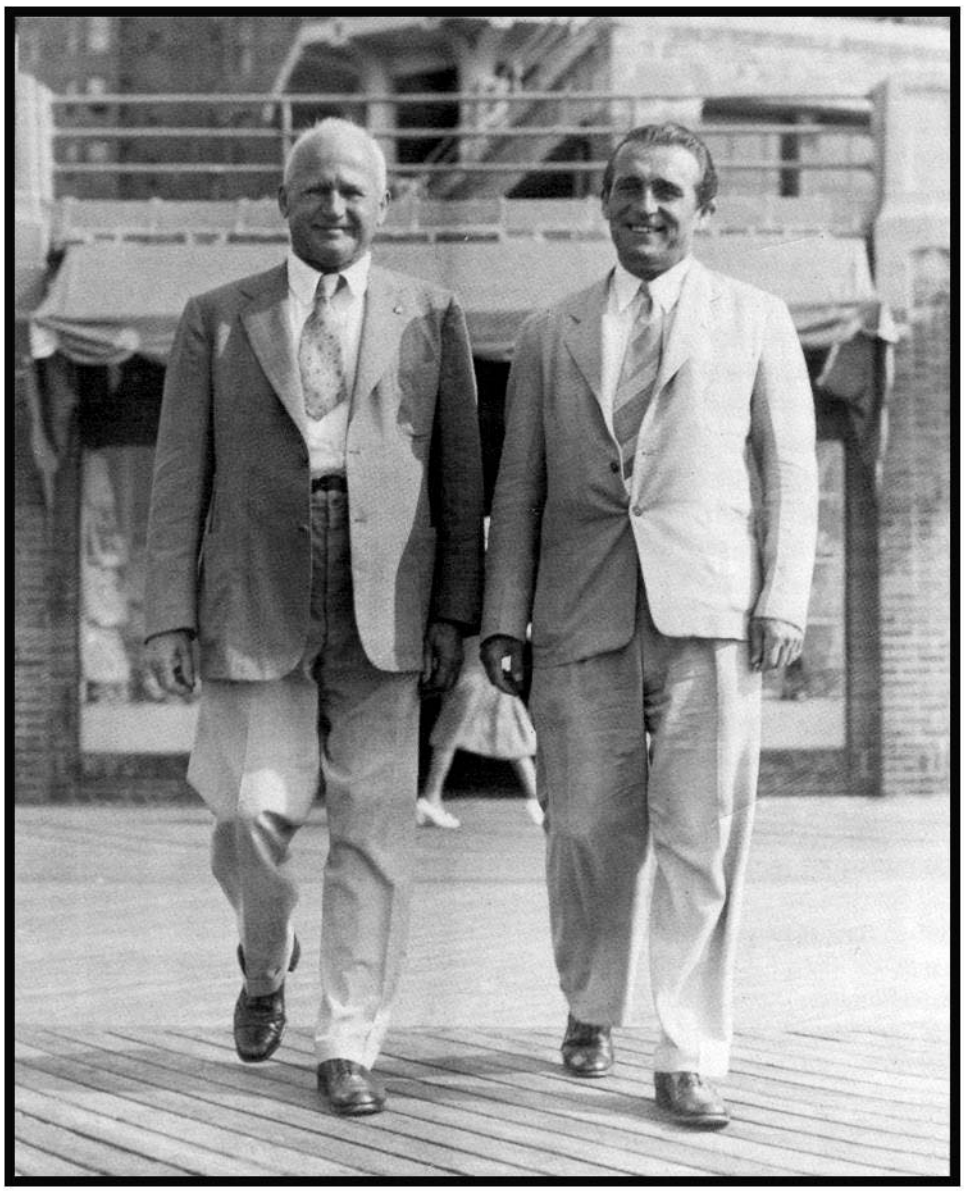
dom and folly that ran through early naturopathy. There can be no doubt that people improved in health during a stay at Yungborn (aside from the risk of melanoma from all that sunbathing, a danger not understood at the time). Early to bed, early to rise, eat no meat, and exercise is a prescription for physical well-being in any location. Nor is there any doubt as to Lust's good intentions; all that he wrote and all that was written about him attest to his sincerity in wanting people to achieve the highest vitality and in believing that his nature cure was the surest path to that end. Yet sincerity and common sense were countered in naturopathy by an unquestioning faith that every agency of the natural world—be it water, pure air, or ultraviolet rays—was necessarily productive of benefit because it was "natural." "Nature is perfect in every way and everywhere," Lust proclaimed as early as 1900; "the new art of natural healing expects everything from nature and is convinced that the simple natural remedies employed can only assist nature to overcome the disease." Such unwavering trust in Mother Nature's kindness resonates throughout naturopathic literature, from a "Naturopath's Creed" that professed belief in nature's "eternal goodness" and "her perpetual efforts toward ever higher construction," to the quatrains of a naturopathic poet:

> *I am getting back to nature, I have strayed from mother earth,*
> *Have followed many barren paths, since my time of birth,*
> *I am living close to nature, with the sun, the air, the bath,*
> *And experience has taught me this, to take 'The Natur-path.'*[10]

Naturopaths' reverential absorption in the benevolent mysteries of nature loosened their minds to jump to intuitive suppositions that had no basis in objective science, such as the power of the "healing magnetism" of mud. Children had so much fun making mud pies, Lust explained, because "the child...feels within itself the need of the magnetic surge that sweeps from Nature through man, meets the electric wave that quivers from Ether through man, and forms the complete circuit comprised in humanity—from Animal to God."[11]

Groundless conjecturing was an unfortunate enough weakness. Worse was the willingness to accept into the naturopathic fold any therapeutic modality presented as "natural," no matter how outlandish the method or questionable the motivation of its proponent. A quick thumbing-through of any volume of *The Naturopath and Herald of Health,* the field's chief journal, corroborates the opinion of D. D. Palmer, the founder of chiropractic, that the naturopathy of his day was "a pick up of anything and everything that their authors find lying around loose." For a period, for example, the journal had a "Phrenological Section." The pseudo-science of reading character by the shape of the skull had been popular for a period during the nineteenth century, but had been discredited and largely abandoned by the beginning of the twentieth. Its claim to take in "man's whole organization and mode of life, and how to control and guide it" struck a responsive chord with Lust the holistic philosopher, however, so phrenology was taken in by naturopathy. There was an Astroscopy Department for a while too, providing guidance on diagnosis through

In the summer, many of Yungborn's guests stayed in 'air cabins" which were specially constructed to maximize circulation. Note the special roof construction to allow "healing" fresh air to constantly circulate though the building.



Two giants of the American naturopathic movement—Benedict Lust (left) and Dr. Jesse Mercer Gehman—posed for a hotel photographer at Atlantic City in approximately 1935. Gehman, who worked for a time as an editor for Macfadden, later founded his own naturopathic health resort hear Harrisburg, Pennsylvania. In 1943 Gehman published *Smoke Over America,* a detailed examination of the dangers to humans posed by tobacco smoke.

astrology. To illustrate with one case, the mysterious illness of the son of Tsar Nicholas was correctly determined to be hemophilia—but only because the boy had been born when the sun was in Leo and the moon in Virgo. In the realm of therapy and prevention, there was a comparable richness of embarrassments, ranging from sand eating to cure indigestion and constipation, to rectal manipulation, "an absolute cure for chronic headaches and many other diseases supposed to be incurable."[12]

The advertisements accepted by naturopathic publications demonstrate the same open-mindedness toward all things purporting to be natural. The good, such as whole wheat bread sticks and strength-building exercise programs, ran side by side with the ludicrous. To select but two from among the latter group, there was the Toxo-Absorbent Pack, a container of certain potent minerals that "applied externally searches out the poisons from every organ of the body, draws them to the surface," and neutralizes them, thereby curing pneumonia, tuberculosis, cancer, appendicitis, and typhoid fever; and the Golden Sunlight Radiator, which relieves "pains of every description almost instantly"; it also made pimples "fade away like flakes of snow under the hot sun." An assortment of bizarre literary productions also found their way into the advertising pages of naturopathic journals, among them the booklet that offered vital information about "the inhabitants of the different Planets of this solar system."[13]

While embracing virtually anything that identified itself as natural, early naturopathy reflexively dismissed any theory, therapy, or activity associated with allopathic medicine. The germ theory, for example, was in Lust's opinion "the most gigantic hoax of modern times." The naturopathic position on bacteria was that they were effect rather than cause, agents that established themselves in the body only after it had already begun to deteriorate "because of our unnatural mode of living. The healthy body does not allow undue multiplication of germs. But in the unhealthy body there is so much corruption and waste that the germs start to multi-

ply and flourish." It followed for naturopaths that attempts to control germ proliferation with vaccines—an activity enjoying great favor among MDs—were misguided in theory, as well as a violation in practice of the sanctity of nature. Smallpox vaccination in particular offended naturopaths' intuitive sense of inner purity as the sine qua non of health, involving as it did the introduction of purulent foreign material to the body. Surely it was "beyond the compass of all sane comprehension how corrupted matter—rotted blood—fostered in purposely infected animals...can possibly prevent disease, or restore an afflicted person to a normal state!" Vaccination was "such horrible profanation, such disgusting pollution, such absolute insanity [that one has] to ask in amaze, Can these things be possible in the twentieth century?" To Lust, as late as 1927 compulsory vaccination was "that most heinous of all crimes."[14]

But it was not just its effects on humans that made vaccination so heinous in naturopaths' eyes. Equally reprehensible were the sufferings imposed on the animals used to produce and test vaccines. To be sure, most alternative schools of practice in the early twentieth century aligned themselves with the anti-vivisection movement. But none equaled the fervor of naturopathy's attacks on animal experimentation. More than any system, naturopathy respected the kinship of humankind with the animal kingdom: Lust, it will be recalled, praised "the complete circuit comprised in humanity—from Animal to God." Naturopaths' ecological understanding of health—people are whole only when they are integrated into nature's great web of life—made them more susceptible to outrage when so-called healers disrupted that unity and misused other members of the natural community: "Think," one enjoined readers, "of the unparalleled atrocities of these medical perverts who are inflicting untold sufferings on their innocent, helpless victims, to satisfy their devilish mania for experimenting! And worse is sure to come, for it is a fact that animal vivisection is but a stepping-stone to human vivisection." The whole sorry mess of orthodox medicine was summed up in a naturopathic song about "Allopathic Drug Doctors":

Sing a song of doctors, A satchel full of dope,
Four-and-twenty patients, A hundred miles of hope.
When the satchel opens, the doctors start to guess;
The patients are about to get some nauseating mess.
Dosem's in the parlor, Analyzing frogs;
Cuttem's in the kitchen, Vivisecting dogs;
Prickem's found another Serum for disease.
But there's no disagreement When they figure up their fees.[15]

There was a final way in which early naturopathy strove for therapeutic universalism. Alternative medicine in the early 1900s was disordered by internecine conflict. Chiropractors and osteopaths, for example, despised one another as much as they did allopaths, and each of those systems was also riven by factions within. But naturopathy, governed by a philosophical inclination to presume healing power in every realm of nature, was more disposed toward cooperation than competition. As early as 1907, Lust professed himself "liberal enough to believe that in all of the various systems of healing, even medical science [!], the vaguest and most contradictory of all, we can find some central principle of truth operating if we are only fair-minded enough to seek it." Fellow practitioners professed similar beliefs, and together "cherished a fond dream—the union of all drugless factions into one great profession." Lust in fact described his profession's national society, the American Naturopathic Association, as "a union for the mutual advancement of all healers who rely on nature, an organization under whose wings all schools that use no drugs can find shelter."[16]

That ecumenical orientation meant, by Lust's interpretation, that, "The Naturopathic physician is the physician of the future. Bye and bye, we may be able to evolve a humane system of healing that will be as near perfect as it is possible for man to make it." It was even imagined that the drug-dosing allopaths might be brought into the fold bye and bye. In 1918, a naturopath indulged a fantasy in which he proposed "that the American Medical Association and the American Naturopathic Association each appoint a committee whose sole duty will be to ascertain the points of greater wisdom and excellence in the other association. The A. M. A. could say to the A. N. A.—'We are doubtless making serious mistakes, which your superior knowledge would enable us to correct. Please inform and reform us.' Then the A.

N. A. would reply to the A. M. A.—'Not so, brothers. We, verily, are the bunglers—will you not graciously condescend to show us the better way?' Each would thus become a regular Alphonse of courtesy to the other's Gaston of humility." At that point, the doctor came to his senses, realizing how unlikely a vision he had conjured. "I have to stop here," he sighed; "such a spectacle takes my breath entirely away, and I must needs recover from the shock."[17]

As it turned out, even cooperation with other alternative systems proved a fantasy, as they refused to acknowledge any merit in naturopathy. By the 1920s, Lust had abandoned the campaign for unification, now urging colleagues to let "the one-track systems go their own separate, independent ways." The man who had once dreamed of uniting all alternative healers into a single profession announced that "the time has come when we must attend to our own knitting," and turned to bitter denunciation of the "uncongenial elements" that constituted the other systems; chiropractors, for example, he characterized as "a treacherous, slimy crew."[18]

There were uncongenial elements aplenty even within naturopathy, however, and after Lust's death in 1945 the system broke down into several disputatious factions; at one point in the 1950s, there were no fewer than six different national organizations claiming to represent the profession. Not until the organization of the American Association of Naturopathic Physicians in 1980 would naturopathic practitioners be reunified. Since then, naturopathic practice has been distinguished by the determination of the profession's leaders to distance themselves from the therapeutic naïvete of early practitioners. The profession's leading educational institution, Bastyr University, near Seattle, boasts that instruction at the school "has concentrated more on the scientifically verifiable aspects of natural medicine and less on the relatively anecdotal nature cure aspects." So successful has naturopathy's scientific reform been that of the ten centers for research into alternative medicine established by the National Institutes of Health Office of Alternative Medicine in 1994-95, Bastyr University was the only non-allopathic institution to be selected.[19]

Modern naturopaths' scientific self-image is nicely expressed in one practitioner's declaration that, "We must define ourselves as a practice of medicine. Let's not go back to the nuts and berries days of naturopathy." Yet in one respect, the nuts and berries days continue on. As Seattle naturopath John Bastyr approached the end of his career, he implored colleagues to "keep on with the scientific research, but don't forget the philosophy." Bastyr's injunction has been heeded, for although the religious content of Lust's philosophy has been largely removed from naturopathic discussion, much of the rest of his Therapeutic Universalism remains, if in more sophisticated form. In 1989, the American Association of Naturopathic Physicians formally recognized that naturopathic medicine is ultimately defined "not by the therapies it uses but by the philosophical principles that guide the practitioner." Contemporary naturopathic literature still abounds with professions of faith in vitalism, respect for the healing power of the vital force, and the superiority of natural therapeutic agents to artificial ones.[20]

Notes:

1. Friedhelm Kirchfeld and Wade Boyle, *Nature Doctors. Pioneers in Naturopathic Medicine* (Portland, OR: Medicine Biologica, 1994), 185-219.

2. Henry Lindlahr, *Nature Cure,* 12th ed. (Chicago: Nature Cure Publishing, 1919), 12.

3. Benedict Lust, "Health Incarnate," *Naturopath and Herald of Health* (1903) 4:164-7, p. 165.

4. "Naturopathic Legislation Series," *Naturopath and Herald of Health* (1914) 19:143-50, 183-7, 217-58, p. 145; Benedict Lust, "Naturopathy vs. Nature Cure," *Naturopath and Herald of Health* (1902) 3:262-3; advertisement for American School of Naturopathy, *Herald of Health and Naturopath* (1921) 26:576.

5. Benedict Lust, "The Organization and Establishment of the 'American' Yungborn," *Naturopath and Herald of Health* (1913) 18:no page.

6. G. R. Clements, "The True Science of Naturopathy," *Nature's Path* (1925) 1:31-4, p. 34.

7. Per Nelson, "Naturopathy versus Medicine," *Herald of Health and Naturopath* (1920) 25:78-82, p. 80; Edward Purinton, "Naturopathic Creed-crystals," *The Naturopath and Herald of Health* (1902) 3:519.

8. Benedict Lust, "A Happy New Year!" *The Naturopath and Herald of Health* (1907) 8:1-4, p. 3; Edward Purinton, "Efficiency in Drugless Healing. In: Benedict Lust, ed., *Universal Naturopathic Encyclopedia Directory and Buyers' Guide Year Book of Drugless Therapy For 1918-19* (Butler, NJ: Lust, 1918), 65-165, p. 88; James Clauson, "The Dawn of a New Era," *Naturopath and Herald of Health* (1910) 15:513-7, p. 516; A. Eppolito, "Christ as a Naturopath. *Nature's Path* (1944) 48:163, 172, 177, p. 163; Benedict Lust, "A Happy New Year! (1907) *Naturopath and Herald of Health* (1907) 8:1-4, p. 2.

9. Advertisement for Yungborn. *Herald of Health and Naturopath* (1916) 21:no page; T. C. M., "The nature cure at Butler," *Naturopath and Herald of Health* (1904) 5:151. Also see "A New York Physician, How a Doctor was Disillusioned," *Naturopath and Herald of Health* (1902) 3:251-4.

10. Benedict Lust, "Art versus Nature in the Process of Healing. *"Kneipp Water-Cure Monthly* (1900) 1:120; William Havard, "The Naturopath's Creed," *Herald of Health and Naturopath*

(1919) 24:268; Byron Stillman, "Back to Nature," *Naturopath and Herald of Health* (1905) 6:151.

11. Benedict Lust, "Editorial Drift," *Naturopath and Herald of Health* (1902) 3:296-9, p. 298.

12. D. D. Palmer, *The Chiropractor's Adjuster: Text-Book of the Science, Art and Philosophy of Chiropractic for Students and Practitioners* (Portland, OR: Portland Printing House, 1910), 286; "Phrenological Section," *Naturopath and Herald of Health* (1912) 17:615-8, p. 617; "Astroscopy Department," *Herald of Health and Naturopath* (1917) 22:188-9; NHH (1904) 5:no page; William Moat, "Rectal Manipulation," *Herald of Health and Naturopath* (1916) 21:502-4, p. 502.

13. Advertisement for the Toxo-Absorbent Pack. *Naturopath and Herald of Health* (November, 1906), 7:28; Ad for the Golden Sunlight Radiator. *Naturopath and Herald of Health* (April, 1907), 8:18; Ad for X-Ray. *Naturopath and Herald of Health* (August, 1905), 6:no page.

14. Benedict Lust, "Who will give the first million to promote naturopathy?" *Herald of Health and Naturopath* (1920) 25:61-2; R. L. Alsaker, "Do Germs Cause Disease?" *Physical Culture* (February, 1920) 43:46, 87, 89-90, p. 89; L. H. Anderson, "Natural Healing," *Naturopath and Herald of Health* (1902), 3:149-53, p. 153; A. A. Erz, *The Medical Question. The Truth About Official Medicine and Why We Must Have Medical Freedom.* (Butler, NJ: Erz, 1914), 255; Benedict Lust, "What I Stand For," *Naturopath* (1927) 32:217-20, p. 218.

15. A. A. Erz, "Official Medicine—As It Is—and What It Is Not," *Naturopath and Herald of Health* (1914) 19:573-604, p. 602; "Regular Allopathic Drug Doctors," *Herald of Health and Naturopath* (1921) 26:138.

16. Benedict Lust, "Naturopath to be Vastly Improved," *Naturopath and Herald of Health* (1907) 8:37-38; Benedict Lust, "Facing the Situation," *Herald of Health and Naturopath* (1920) 25:269; Benedict Lust, "Naturopathic News," *Herald of Health and Natuwpath* (1922) 27:32. For an example of other naturopaths' openness to different schools of healing, see Edward Purinton, "Proclamation of Naturopathy," *Naturopath and Herald of Health* (1906) 7:303.

17. Benedict Lust, "Naturopathy in Southern California," *Naturopath and Herald of Health* (1907) 8:40-1, p. 41; Benedict Lust, "Naturopath to be Vastly Improved," *Naturopath and Herald of Health* (1907) 8:37-38; p. 37; Edward Purinton, "Efficiency in Drugless Healing," In: Benedict Lust, ed., *Universal Naturopathic Encyclopedia Directory and Buyers' Guide Year Book of Drugless Therapy For 1918-19* (Butler, NJ: Lust, 1918), 65-165, p. 165.

18. Benedict Lust, "Editorials," *Herald of Health and Naturopath* (1920) 25:269; Benedict Lust, "Editorials," *Herald of Health and Naturopath* (1920) 25:283; Benedict Lust, "Dr. Lust Speaking," *Naturopath and Herald of Health* (1935) 40:2-3, 9, p. 3.

19. Friedhelm Kirchfeld and Wade Boyle, *Nature Doctors. Pioneers in Naturopathic Medicine* (Portland, OR: Medicina Biologica, 1994), 203; Joseph Pizzorno, "State of the College," *Journal of Naturopathic Medicine* (Winter, 1985) 3:111-4; Baynan McDowell, *The National Institutes of Health Office of Alternative Medicine, Alternative and Complementary Therapies* (1994-5) 1:17-25.

20. Jared Zeff and Pamela Snider, *Report to the American Association of Naturopathic Physicians From the Select Committee on the Definition of Naturopathic Medicine, September, 1988* (Bastyr University Library), 17; John Bastyr, *Journal of Naturopathic Medicine* (1991) 2:40; Joseph Pizzorno and Pamela Snider, "Naturopathic Medicine," in: Marc Micozzi, ed., *Fundamentals of Complementary and Alternative Medicine* (New York: Churchill Livingstone, 2001), 173; Randall Bradley, "Philosophy of Naturopathic Medicine," in: Joseph Pizzorno and Michael Murray, eds., *Textbook of Natural Medicine,* 2nd ed., 2 vol. (New York: Churchill Livingstone, 1999), vol. 1, 41-9.

The Shelton Collection—*Continued from Page 2*

Besides all his other activities, Shelton was an avid collector of books on health and nutrition, and his collection grew over time to 2700 volumes. After his death those volumes were displayed in specially made glass-fronted bookcases in the NHA offices in Tampa. Over ten years ago and at Vic's urging, Jan and I visited the NHA offices to see the collection and to tell the staff at NHA about our own collection at U.T. We told them that we admired Dr. Shelton's work and that if the time ever came when they felt his collection could have a larger impact if it were housed in our library we would treasure and care for it as we knew he had done.

As the years passed we remained in contact with the staff at NHA, and then late last year they called us and told us that if we still wanted the Shelton Collection we could have it. Thus it was that we made another trip to pack and bring home a significant collection of a significant figure in the physical culture field. We are honored to have it, and it has already been used by several researchers. We are deeply grateful for the gift of the collection, as we are for the gifts of the Gehman and Gian-Cursio collections. They are safe here now, and accessible to serious researchers in the fields they cover. In fact, an example of the use to which these collections have been put can be found in the article on page 22 by Dr. Jim Whorton (a professor in the medical school at the University of Seattle). Whorton did most of the research for a recent book on alternative medicine—*Nature Cures*—here in our collection, and his article in this issue deals with Benedict Lust, another prominent physical culturist. It, too, is based on research Dr. Whorton did here at Texas. Another of this issue's articles drew heavily from research done in the parts of the collection dealing with exercise. That article—"Dudley Allen Sargent: Health Machines and the Energized Male Body," by Dr. Carolyn de la Peña begins on page three.

We hope and expect that in the future more researchers will use our collections to study both exercise and the broader fields of physical culture. We further hope that more books and articles will result and that the pioneers of physical culture will not be forgotten. That is our abiding aim.

Retro Stud: Muscle Movie Posters From Around the World

by David Chapman

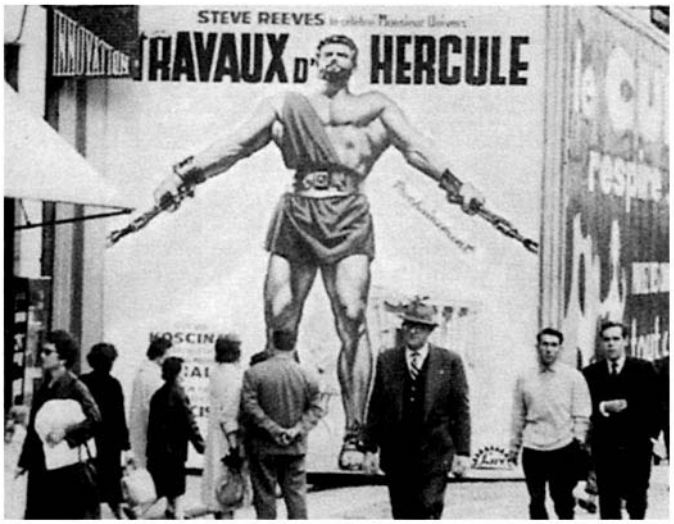
(Portland: Collector's Press, 2003)

Reviewed by David P. Webster

Retro Stud is the strange title of a fine new book by David Chapman of Seattle. The book is about muscle movie posters from around the world and its 128 pages are quite a revelation. It is a subject that has interested me since the 1950s yet I had no idea there was such a rich variety of material. In my ignorance, I had imagined that the exciting artwork I had seen would be used internationally. This is certainly not the case and David Chapman has made an excellent job of collecting and selecting posters from many countries.

Known widely as "sword and sandal" or "gladiator" movies, these were popularized by Steve Reeves' Hercules films made in Italy. These were by no means the first of their kind, indeed very many years ago in Los Angeles, David invited me to see *Calabria*, a silent Italian film made before World War I and featuring Bartolomeo Pagano (1878-1947) as Maciste.

In the late 1950s and during the 1960s there were many box office successes, mainly from Italy, although others jumped on the bandwagon with less spectacular results. The marketing of the films played a major part in filling cinemas, which were fighting a losing battle against television. Graphic artists, driven by shrewd publicity agents, produced captivating posters that depicted action-packed, physical drama with virile, muscular men and sexy women. Good titles, titillating sub-titles, and, of course, the visual impact of beefcake and cheesecake helped to fill cinemas. The numerous posters and photographs in Chapman's book vividly illustrate this approach. "The Invincible Gladiator—2000 Years Back To The Age of Orgy" read one title, with every word capitalized. "The Trojan Horse—Surging Spectacle of Savagery and Sex," read another.



This French *Hercules* poster was literally larger than life.

The posters are worthy of much more than a glance. Readers will find names of well-known bodybuilding champions like Steve Reeves, Reg Park, Sammy Bergand and Paul Winter to name but a few. There are also others whose identities are obscured by professional names. Mark Forest of the films is actually Lou Degni. Ed Fury was Ed Holochik. Cameron Mitchell was really Chuck Pendleton, one of Joe Gold's best-known gym instructors. Pendleton made so much money on these films that he bought his own film lot and wrote into the contracts he used to rent his facilities that he was guaranteed a part in any film made on his lot. Mickey Hargitay and his beautiful wife, Jayne Mansfield, are both well known to readers of *Iron Game History*, and *Retro Stud* also shows posters for several films they made together.

This book has awakened many memories for me. It has especially reminded me that this genre of films brought bodybuilders into the mainstream entertainment world and that there were many spin-offs from this connection for the field of physical culture. David Chapman is to be congratulated for his research and knowledge. This is a fine book of which he can be proud. Presented as a well-bound hardback and printed throughout in vibrant colors, it is a very good value at $16.95.

Dear *IGH:*

Al and I first met George Eiferman in 1950 while visiting York, PA. We were staying at the quarters of Stan Stanczyk. During that week there was a large party with all the guys up there, including John Grimek, Steve Stanko, Bob Hoffman, Joe Pitman, John Terpak, George Eiferman and many others. I don't recall them all at the moment, being some 50 odd years ago. We did not keep in constant touch with George, however, until 1970.

All seven of us—Al, myself, our three sons and daughter, and a teenage boy we were raising—moved to Las Vegas from Florida. We went into a business partnership with George in a large gym. I ran the ladies department and George and Al ran the men's area. George had a large home which we rented until buying our own home. It was at George's home (he kept a room there), that I first met Arnold Schwarzenegger. He had not been in the states that long, so had not started in the movies as yet. One funny/odd quirk that George had was to put all his vitamins in his mouth at once, chew them up and swallow them. I do not know how he could do that.

Because we were new to Las Vegas, George was very free with his time and showed us all the amazing sites outside the city proper. He was also able to get us many "comps" to the big hotel shows and so we got to see acts like Siegfried and Roy, Elvis, Sonny and Cher, Ike and Tina Turner, the Folies Bergere, the Righteous Brothers, Sammy Davis Jr., and Wayne Newton. George was a very giving person and had the biggest bearhug on earth. For several months each year George would go out on the road, with his trumpet in tow, and talk to school assemblies about exercise, better eating habits, and staying straight. Also, up to the time of her passing, Mae West would call George up at the gym and the next day he'd be taking a trip to Los Angeles!

A few years later George started another gym in Vista, California. Al also worked with him in that gym for awhile. All through the 1980s and 1990s we kept in contact here in Las Vegas, up to the time of his passing. There was no one quite like George. It was an experience and a pleasure knowing him and being his friend for so many, many years.

Vera Christensen
Las Vegas, Nevada

Dear *IGH:*

There is only one complaint I have about the annual AOBS get-togethers and that is that there just isn't time to get to talk with everyone. This year I only got to say "Hi" to Jan in the corridor. In addition to saying that I'm sorry I didn't get to visit with you, Terry. I wanted to let you know that two days after returning from Saddle Brook, I received a letter from Chuck Sipes' sister-in-law with the sad news that Chuck's only sibling, an older brother (Bill Jr.), had passed away at age 73 after a short illness. She did not specify what illness he had but their father (Bill Sr.) is still alive at age 98 and their mother lived into her 90's. So much for the gene impact on longevity. You both looked well (from a distance) and I really enjoyed the video of you displaying the contributions Vic made to your library. His passing was certainly a wake up call on our mortality.

Norm Komich
Beverly MA

Ed Note: Jan says I look better at a distance.

Dear *IGH:*

Hope you received the Topham book and found it interesting, and as I said in the letter I always love receiving each issue of your fine magazine.

Anyway, the reason for this email is to point out my opinion on Inch's ability to lift his famous dumbell. In a letter by Larry Davis on page 33 of the recent issue of *IGH,* it states that I believe Inch lifted the bell overhead with one arm. Well, this is certainly not my opinion now, and I think I was always pretty reserved about it as I wasn't there to witness it, and as there were never any pictures of this feat except from the film mentioned

below, and of course this isn't even the bell!

Here's a section from an article "Strongmen on Film" I wrote for *Iron Grip,* Vol. 3, No. 1, January 2003.

Inch by Inch

I.D. 1182.20; www.britishpathe.com: 23 January 1939; Length of film: 2 min. 26 sec.; B &W

Thomas Inch presents his famous "Unliftable" challenge dumbbell. Well, this is what he states in the film, but anyone who has seen the 172lb original knows this is not that dumbbell. Please see picture, and notice the protruding caps/collars on the ends of the globes of the dumbbell in his right hand, which of course the real dumbbell does not have. After Inch has talked about who hasn't lifted this dumbbell out of the many who have tried he then gets his stooges to try, if you can call their laughable attempts trying! I doubt that these bells (because he even bent down and lifted another one when he had the Inch bell above his head) weighed more than 100lb and 70lb, instead of the 172lb and 104lb that they were stated as. Personally I thought it was sad to see such a sham, because after all is said and done Inch was a strong man, but not this strong, and definitely not at the 57 years of age he was here. The age of 57 is stated in the May 1939 *Strength and Health* magazine article "The Unliftable Dumbell" written by Inch himself. So after Trevor Evans the 18 stone strongman and Wally May the trainer to the famous British boxer Len Harvey both fail to lift it (but I'd have to ask did they even really try?), Bill Evans of *The Star* newspaper then taps the globes with a hammer to show it is metal! After this charade, it is now set for Inch to do the business, which of course he does easily because frankly the weights are not what he states. I would say that this disappointing film illustrates to many of us that Inch never cleaned the proper 172lb bell. This is not to say that he never cleaned one of his lighter bells, and perhaps he could even deadlift the 172 pounder. But there is a big difference between cleaning a ponderous weight like the Inch bell and deadlifting it.

David Horne
Stafford, England

Ed Note: David Horne and Elizabeth Talbot of Great Britain have completed an exhaustive history of Thomas Topham and are selling copies of their privately published book—*Strength Prov'd: Thomas Topham, Strongman of Islington*—for $20.00 (US). The 30-page book contains a wealth of information about Topham and the places where he lived (Horne and Talbot have unearthed a considerable amount of new material). We are impressed with the book and the amount of research that it represents. To order copies, please write: David Horne, 27 Ingestre Road, Stafford, ST17 4DJ, England. His email is: iron-grip@ntlworld.com.

Dear *IGH:*

That was a masterful job on the issue of *Iron Game History* that honored Vic Boff. I thoroughly enjoyed it! Al Thomas was a good choice to write the main article. That was also an interesting article on Pat O'Shea, too. I hope everything is going well with you. Stay well & stay strong.

Jim Sanders
Garner, NC

Dear *IGH:*

I just finished reading your latest issue for the second time. The article by John Fair was fantastic. I can't imagine the amount of research he put into that. I was very saddened to hear that Vern Weaver had died. I was not aware of this. Actually, I thought I saw him back in 1999 at the York Strongman meet, but obviously not. I always felt that he was one fellow who could have gone much further than his Mr. A victory in 1963. He came close a couple of times at the NABBA Mr. Universe contest but just fell a little short. Keep up the great work. I look forward to each issue.

George Bangert
Spring Grove, PA

Dear *IGH:*

Sal Francino sent me a copy of the most recent issue of *IGH,* which I thoroughly enjoyed. The high quality of production and editing is obvious, as is your love for the subject. The discussion relating to the Apollon Bar/Wheels reminded me of an article on Apollon I read in one of Joe Weider's magazines about fifty years ago. It described Apollon's act, which closed with his "escape" from a prison cell by bending back the iron bars and stepping through. Before one show, someone tampered with the bars, forcing Apollon to exert everything he had to bend them, fatally injuring himself in the process. I don't know if that is true or not. Have you run

any articles on Apollon himself and the actual circumstances of his death? The old strongmen had to be showmen or they didn't eat, and it appeared that Apollon knew how to please an audience.

Barry Wiley
Sunnyvale,CA

Ed Note: Edmond Desbonnet included a long biographical sketch of Apollon in his landmark history of the Iron Game, *Les Rois de la Force* (The Kings of Strength, published in 1911.). In Vol. 4, No. 5 & 6 of *IGH* we printed the entire Apollon chapter which David Chapman had translated. According to Desbonnet, he and Leon See witnessed the bar-bending episode in Lille, France. See described it "the most tremendous feat of strength of his [Apollon's] career." To read the full report, check out pages 43-45 of that issue of *IGH*. Apollon died years later.

Dear *IGH:*

You may be interested in using the enclosed in *Iron Game History* Only a very few bodybuilders have photographic records of what exercise can do if practiced all of one's life. These pictures should be of some encouragement to the young. I'm 87 now and I'm still working out and holding age at bay, even though I have several health problems.

The exercise course enclosed is a great warmup for any athlete and a complete workout for the average guy and especially for seniors if done from a bed or couch as described. I sell it for a mere $5.00 (shipping and handling included).

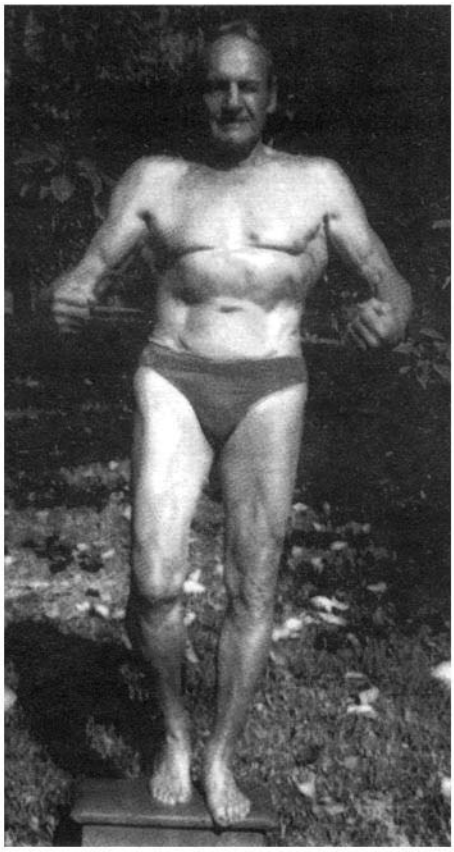
Gene Jantzen
Carlyle, IL

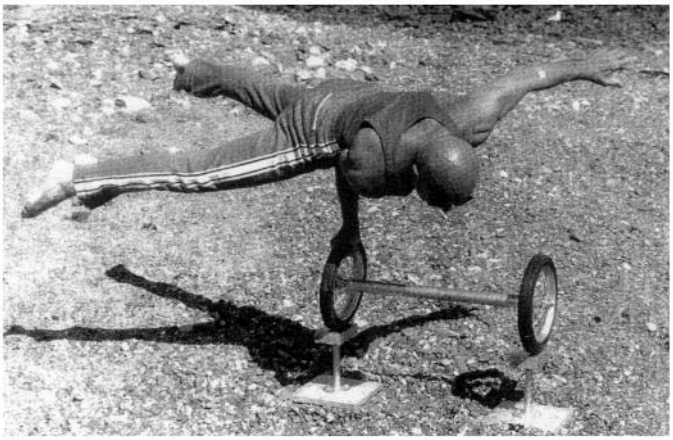
Dear *IGH:*

Please renew my subscription. Please also note in the April 2003 issue on Eliseev that there are at least two errors on page 35. Eliseev's height of 170 cm. is not 5'9" but, actually, rather 5'6.9"; in another spot the height of 172 cm. is translated as 5'6" when it is actually 5'7.7".

As for the forearm measurement of 40.5 cm.

As you can see in these photos taken at 19, 32 and 85 years of age, Gene Jantzen has retained remarkable shape and muscularity throughout his long and healthy life. Gene is also a talented artist and one of our most treasured items is a statue he presented us several years ago for inclusion in our collection. To order copies of Gene's training course, *Ultimate Exercise,* please send $5.00 to Gene Jantzen, P.O. Box 172, Carlyle, IL 62231.





(15.9"), I suspect that this is actually his biceps size. I'm skeptical of a 15.9" forearm on a 5'7", 185 pounder.

Dale Harder
Castro Valley, CA

Ed Note: So are we. Good catch.

Dear *IGH:*

Sorry to hear about Vic—what a great guy. He did a great job of getting all the men together. I will miss him. Last time he called me was in October. We talked about 20 minutes. I turned 86 last July 1. He said he had the same thing I have, prostate problems, but it doesn't bother me. July 1st made 71 years that I have been working out—acrobat, weight lifter, swimming and diving, roller skater, ice skater, yoga, etc. I retired at 80. Now I just keep in shape at the YMCA in Sanford, Maine. Wish you both the best of health.

Al "Tarzan" Bertrand
Sanford, ME

Dear IGH:

Greetings! As I said on my telephone message, left on your answering machine Thursday evening, I thank you very, very much for the issue of *IGH*. You certainly sent the right issue to me; "Some Lesser Known Strongmen of the Fifties and Sixties" by Steve Neece was like a time journey to the past. Marjanian, Ahrens, Jimmy Hamilton...I saw those fellows and other great lifters such as Dave Ashman and Dave Sheppard on almost a daily basis. (2-3 hour workouts, 6 days per

Al "Tarzan" Bertram, one of the greatest handbalancers our game has produced, continued to give public exhibitions of his strength and flexibility until the age of 78. He is 70 in the photo on the left and 78 in the shot above, taken at his last public performance.

week guaranteed chronic overtraining via snatches, clean and jerks, presses, rows, power cleans, squats, high pulls, jerks off the rack, deadlifts, etc., etc....) This was the late fifties to the summer of 1963, the year I left for Australia. Richard Kee was a phantom. The guys talked about him, but few had actually seen him. But enough of this, I gotta get on the bike before the sun goes down, hammer those miles!

But I do want to say, Terry, you are a marvelous writer—dramatic, engaging, compelling, a beautiful style. After reading your fine piece on Harold Weiss I dug out my old well-read, time-worn, dusty *Inside Powerlifting*. Back in 1979 I dove right into the DL, BP training sections, not paying much attention to Chapter 1. But, Chapter 1, Terry, is quite simply a beautiful piece of writing, a monograph that could stand on its own as an exemplary literary work, of its genre. (Paragraphs 1 and 2 hit home hard.) *Iron Game History* is indeed a magnificent project, Terry and Jan. Ours is a noble heritage. Stay fit, stay healthy, keep blasting the iron, you two.

Richard Abbott
Santa Paula, CA

Dear *IGH,*

Your Volume 7 Number 4 Journal was particularly enjoyable but it was sad to learn of the passing of Vic Boff, a fellow so fondly, and understandably, remembered as your article(s) so nicely pointed out.

I visited York twice when I was 16, then 17 years old and it was during Easter Week, 1948, when John Grimek and I (just me!) had a two hour workout—

just the two of us in the York gym! What a great day for me! And then you'd never guess who walked in unexpectedly: none other than Henry Milo Steinborn and Primo Carnera! Bob Hoffman was not in York for that memorable event. Milo and Primo were very jovial that day and it was such a pleasure to meet them. My hand got lost somehow when I shook hands with Primo. And you could tell Grimek and Steinborn were great pals.

The fastest, if not the greatest lift I ever witnessed (just before heading overseas) was made by Stan Stancyck in Detroit for the 1949 Nationals (combined with the Mr. America when Jack Dellinger just edged out Melvin Wells and John Grimek gave a spectacular posing show. Stan Stancyck, after clowning on stage simulating drinking a bottle of that pink liquid known as Bob Hoffman's newly discovered suntan lotion (an excellent product by the way), came out and snatched 292 lbs in a "flash of speed" and without a knee touch (Remember his confession at the '48 Olympic Games?)

At Ed Yarick's famous gym in Oakland (Ed and Alyce were such great people!) I also just by chance had a workout with just John Davis in the gym and nobody else. It was in the Spring of 1953. I had John laughing and learned what a jovial guy he was. He was in a great mood and made some humorous but innocent remarks at Doug Hepburn's expense and then began laughing about Norb Schemansky: that Norbert could somehow "never" lift a weight on stage that he hadn't already lifted in the gym. John said, "I just can't understand this kind of thing because the most I snatched was 270 three reps before setting a world record with a snatch of 330 lbs."!

Soon after that, I lifted for Yarick's Gym at 198 lbs. in my first Pacific Coast Championship taking a third, Dan Uhalde and Tommy Kono easily taking the first two places, etc; John Davis was a little tired but he and Jim Bradford both did somewhere around 390 lbs. in the clean and jerk.

It certainly has been a pleasure to know people like Ray Van Cleef, Bob Hise, and of course Olympic lifters like Frank Spellman, Tommy Kono (talk about a winning record!) and so many others. I also had a one-on-one conversation with Bob Hoffman watching tears streaming down his face as he spoke about Steve Stanko in the hospital suffering with venous disease and the threat of pulmonary emboli.

One night during my medical internship (from 1958 to 1959), after I had delivered my first baby and been up all night, I headed up to "Muscle Beach" by the pier in Santa Monica. Isaac Berger was there. I weighed 198 and he weighed 131 lbs. We both cleaned and jerked 330! (the truth is I didn't hold the jerk with a very good lock-out, but Isaac Berger did so perfectly and it was so impressive to watch!) Lifting great Armand Tanny was there, too, and so was his pretty girlfriend, who weighed I guess about 120 pounds with a great figure. She cleaned 135 pounds on the Olympic set "so gracefully" it has remained in my mind. What a day it was!

Of all the lifting greats I've met there's one that has stood out for a reason that must have to do with "the spirit living on." I first met this lifter at Yarick's Gym in the Fall of 1952. David Sheppard. He givingly went out of his way to help me with technique and he amazed me as he lifted "like a gymnast," any style. He was somehow able to control his effort every step along the way. I lost track of Dave some time in the late seventies but it was great fun to have dinner with him. He loved the ladies, that was obvious, and I had the impression he enjoyed "opera," and knew a great deal about it. Vic Tanny told me personally in 1953 that Dave could be absolutely the greatest "if he could just settle down and concentrate a little more."

Ted Nolan Thompson, M.D.
Russellville, AR

Ed Note: We'd like to take this opportunity to publicly thank Dr. Thompson for an extremely generous gift that he recently made to our efforts here at *Iron Game History*.

Because we accept no advertising and sell no products, putting out *IGH* is an expensive proposition. Over the years, however, we've had several "patron subscribers" who've donated more than the regular $100.00 Patron's fee to help the journal survive. In fact, one gentleman, who has asked to remain anonymous, has made several such large contributions. We'd like to thank Dr. Thompson and our many other Patron and Fellowship subscribers who help us keep *IGH* alive. We're deeply grateful for your support.