

THE EXTRAORDINARY LIFE OF POLYMATH DAVID P. WILLOUGHBY

PART II: THE MEASURE OF A MAN

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“The true measure of a man is not how he behaves in moments of comfort and convenience but how he stands at times of controversy and challenges.”

—Martin Luther King Jr.

In the second half of the 1920s, Willoughby’s attention began to shift away from competitive lifting. No doubt he had hoped that by promoting weightlifting he might one day be able to make a living in the Iron Game, but when neither Jowett nor Bernard offered him a job in 1924 and the AAU seemed unwilling to endorse weightlifting as worthy of being an Olympic sport, Willoughby began thinking of new ways to support himself.⁹⁵ While competitive weightlifting was in the doldrums in the late 1920s, weight training to improve one’s physique seemed to find plenty of wind to fill its sails. The mainstream appeal of *Physical Culture* magazine, the muscular bodies of silent film stars like Douglas Fairbanks, the growth of YMCAs where barbells could be found, and the proliferation of mail order training courses allowing one to train at home with advice from an expert, opened up all sorts of possibilities for new ways to make money in physical culture.⁹⁶ In order to pursue these possibilities, Willoughby declared himself a professional in 1926.⁹⁷ He did so initially to assist Treloar with some of his work at the LAAC, but Willoughby had also been working as an instructor for Leo Moir, who ran the Health and Strength Gymnasium at 227 West 12th Street in downtown Los Angeles. He took over the running of the gym on 17 December 1926 and began calling it The Willoughby Gym.⁹⁸ [Editors’ Note: See page 58

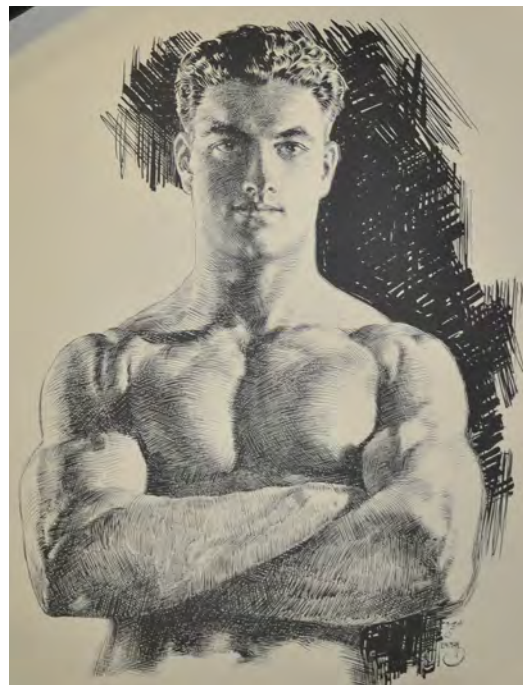
in this issue for Willoughby’s article on J. Paul Getty that discusses this gym.] Willoughby later wrote that “the business was far from lucrative,” even though he had Getty, a number of pro wrestlers (including Milo Steinborn who was then living in California), and professional acrobats and entertainers as members.⁹⁹ In addition to helping the members train, Willoughby also used the gym as a quasi-lab and measured the professional athletes who trained there as their physiques were more impressive than those

of average men, and he even measured some of his women members. These measurements proved important in his later work on ideal proportions.¹⁰⁰

In addition to serving as Willoughby’s weightlifting coach, Treloar proved to be an important sounding board as Willoughby began formulating his ideas about perfecting, and judging, the human form. It needs to be kept in mind that there were no true bodybuilding contests yet in America. The contest Treloar won in 1904 did not become an annual affair, although magazines like *Physical Culture* did, off and on, sponsor physique competitions, such as the 1922 contest in which Angelo Siciliano (Charles Atlas), won the title “Americas Most Perfectly Developed Man.”¹⁰¹ However, there was no governing body sanctioning such contests and there were no real judging standards. In 1904, for example, when Treloar won Macfadden’s contest, the instructions included in the brochure for the contest stated, “Remember that this competition is not to de-

cide who is the most wonderfully-developed man, as we do not desire to select abnormal representatives or freaks from the standpoint of development; we wish the prize to be rewarded to the most perfect specimen of physical manhood.”¹⁰²

It is understandable that being trained by “The



Clyde J. Newman did many drawings for *Strength* magazine and later became friends with Willoughby through correspondence. When Willoughby decided to begin selling *The Willoughby Method* as a training course, Newman gifted him with several drawings to use in his promotional materials including this remarkable portrait of the would-be entrepreneur.



This grainy physique shot was taken in September 1921. On the back, in very uncharacteristic enthusiasm, Willoughby has written, “My first studio muscle-photo!” There would be many more in the years ahead.

Perfect Man,” would cause Willoughby to begin thinking about his own body. He had his first physique shots taken by a professional photographer in 1921, and had another series taken in 1925 after returning from seeing Jowett. Some of the photographs he had taken of himself after 1926 displayed the same classical elegance found in Tony Sansone’s 1932 photo collection *Modern Classics*.¹⁰³

The widespread interest in and importance of measurements in the early twentieth century had many antecedents. Historian Daniel Boorstin argued in *The Amer-*

icans, his classic history of nineteenth-century America, that people in all walks of life increasingly turned to statistics after the Civil War, creating what he called “statistical communities” that included and excluded people based on numerical rankings. Boorstin was looking particularly at the rise of insurance companies that began estimating life span and health expectations as a way to protect their business interests. The Connecticut Mutual Life Insurance Company released the first set of tables of ideal height and weight in 1895, and following that, most other insurance companies—using different sets of criteria—released similar models until, by the 1930s many Americans saw these tables as guides to an ideal body. Other Americans were looking at body measurements too. The greater availability of ready-to-wear clothing in the late nineteenth century and the sale of patterns for home sewing led to the introduction of standardized sizes. Physical educators in both England and America were also inspired by the late nineteenth-century’s love of Greek Revivalism and used the ancients as physical standards in creating new forms of physical training. Citing William Blaikie, who opened his 1879 book *How to Get Strong and How to Stay So* with: “Do We Inherit Shapely Bodies?” historian Roberta Park describes how the emerging men’s physical education community began to adopt “programmes of systematic exercises (i.e., gymnastics and calisthenics) such as Sargent (then director of the gymnasium at Yale University) and Archibald MacLaren (director of the Oxford gymnasium) had devised,” and used measurements as their standard of success. Outside the realm of academia, the rise of physical culture magazines and the use of measurements in advertising performers such as Sandow and Treloar, helped foster a mail-order-course industry that also relied heavily on human measurements as the determinant of success.¹⁰⁴ As Ben Pollack and Jan Todd explained in an article on Earle Liederman and Charles Atlas:

Mail-order muscle authors capitalized on the confluence of a growing interest in exercise, a lack of readily available information on the subject, the power of the Postal Service, and photography to deliver inspiration and visual instruction. . . . As printing and photography technologies matured, the business environment for mail-order muscle grew increasingly lucrative. Most of the more successful mail-order businesses, therefore, began later: Lionel Strongfort’s in 1911; Liederman’s in 1917; and Atlas’s not until 1922. By 1925, over a dozen mail-order muscle courses were advertising in *Physical Culture* or *Strength*. This pattern of growth mirrored both the overall correspondence course industry and the physical culture advertising industry, which grew rapidly between 1910 and 1930. . . . Scholar Mark Whalan explains that “the physical culture craze was to a large degree dependent on



Like Tony Sansone, Willoughby's body was especially elegant in certain poses. This nude study was made by photographer Fred Hartsook, in 1926. Hartsook lived in Burbank and photographed many Hollywood celebrities; he died in 1930.

representations of idealized physiques, which were becoming more important to social ideals about race and gender.' Unlike popular eugenics theories, however, media about physical culture typically focused not on the proliferation of "good" genes but rather on the possibility of self-definition and redefinition through diet and exercise.¹⁰⁵

How much of this Willoughby knew in 1926, of course, can only be a matter of conjecture. However, Willoughby began to devote his intellectual energies more fully to the idea of building an ideal physique after returning from his meeting with Jowett. No doubt inspired by Treloar's association with Sargent, he began by looking at Sargent's ideas about physical perfection and then decided to fact-check Sargent by gathering his own measurements on humans (especially athletic humans from his gym), and classical statuary, and then used statistics to help understand what was pleasing to the eye.

In September of 1929, Willoughby published the first article of a series exploring his ideas on the ideal physique in *Physical Culture* magazine. "What is the Perfect Physique?" was described by the magazine's editors as "one of the most interesting surveys of the proportions of the ideal masculine physique that we have had the pleasure of publishing in the history of this magazine."¹⁰⁶ As proof

of the importance in which they held his article, Willoughby was given seven full pages to lay out his theory, and in those pages he presented a new vision. He rejected the methods of Sargent and other academic anthropometrists, arguing that using antique statuary as the basis for their systems was inaccurate because sculptors invariably tried to "improve on nature—by accentuating the development of certain parts of the body and attenuating that of other parts." What that meant, Willoughby explained, was that the ideal bodies of old did not represent what was possible from "intensive and intelligent culture of the body," or, to put it simply, physical training. The ancient statues represented an aesthetic, but not one that portrayed a realistic human vision.¹⁰⁷

Willoughby used several classical statues frequently cited by anthropometrists to make his case for his new method of calculating human perfection. He began by explaining what the statues would weigh if each was a real human of 5'10" in height, and then compared the ratio of various proportions of each body to one another. The Apollo Belvedere, for instance would weigh only 167 pounds, Polycleitus' Doryphoros or spear carrier, would weigh in at 179 pounds. The hyper-muscular Farnese Hercules, idol of many modern bodybuilders, was surprisingly, not Willoughby's favorite.¹⁰⁸ He described it as a "monstrosity of proportion" and calculated Hercules would weigh 228 pounds if marble could become flesh.¹⁰⁹ Years later, in an art magazine, Willoughby told how he

had reached some of his conclusions, explaining that he measured numerous statues, and then wrote to museums across Europe and America for the measurements of those he could not see himself. In this way he discovered that most classic statues had unnaturally small heads given their other body proportions. It was this, he said, combined with their "relatively short trunks and long legs" that gives the statues "the impression of great (god-like) stature."¹¹⁰ It was, he claimed, "a confusion of technical artistry with anthropomorphic perfection." Like an illusion, he noted, "A beautifully-sculpted human figure in marble or bronze always is impressive, whether the proportions be true to life or not."¹¹¹

Having rejected the ancient Greeks, Sargent, and his academic cronies, Willoughby turned to Leonardo Da Vinci for inspiration, writing in *Physical Culture*, that Da Vinci

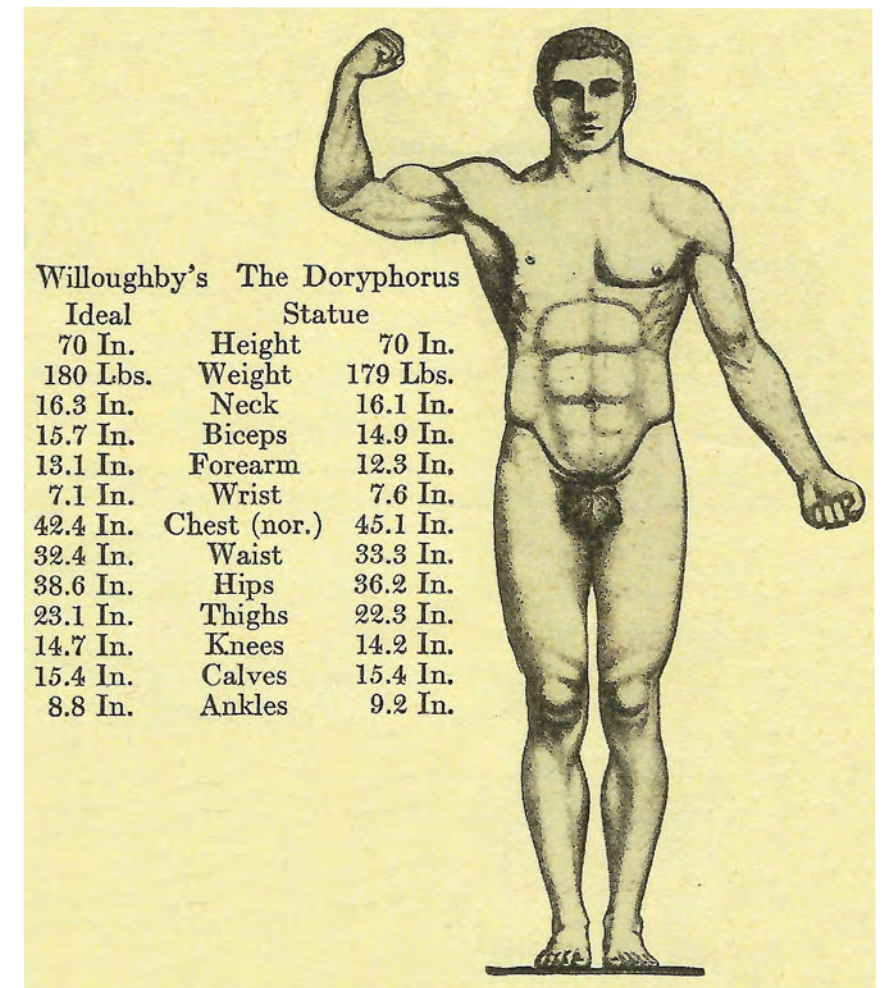
hit the nail on the head when he said, 'The true proportion is solely the proportion of an individual in regard to himself, which according to true imitation, should be different in all the individuals of a species, as is the case in nature. Thus all the parts of any animal should correspond with the whole; that which is short and thick should have every member short and thick; that which is long and thin, every member long and thin, and that which is between the two, members of a proportionate size. And, since the muscles bear a relation to the size of the joint, it follows that the measurements of a given muscular part should be in ratio to the joint most directly influencing it.'¹¹²

Using these principles, Willoughby then went on to argue that Sandow, despite his fame as a perfect man, was far from ideal as his legs were too short for his torso and his muscular girths too large for his frame.¹¹³ Willoughby's ideal, shown in a drawing he made for the article, was the man who had every muscle developed in proper ratio to his own skeletal frame. The fact that it looked a lot like Willoughby's own physique at this time should not go unmentioned.

Over the next year Willoughby contributed ten more articles to *Physical Culture* on training to improve different body parts.¹¹⁴ The 1930 series was essentially a training course on how to be a bodybuilder. Two-time Mr. America, John Grimek, wrote that Willoughby's *Physical Culture* articles inspired and directed his

own interest in bodybuilding. They were, he claimed, "the most complete bodybuilding series that was ever written . . . it was the first of its kind ever presented . . . a masterpiece that covered every phase of building muscles." Expanding on the importance of the series, Grimek explained that before Willoughby, "No one at that time who knew anything about muscle building was willing to share his knowledge." It was as if training information was a "guarded secret," Grimek continued, "but Dave's body developing articles 'exposed' it all, and was so explicitly written that it was impossible for anyone to 'go wrong.'"¹¹⁵

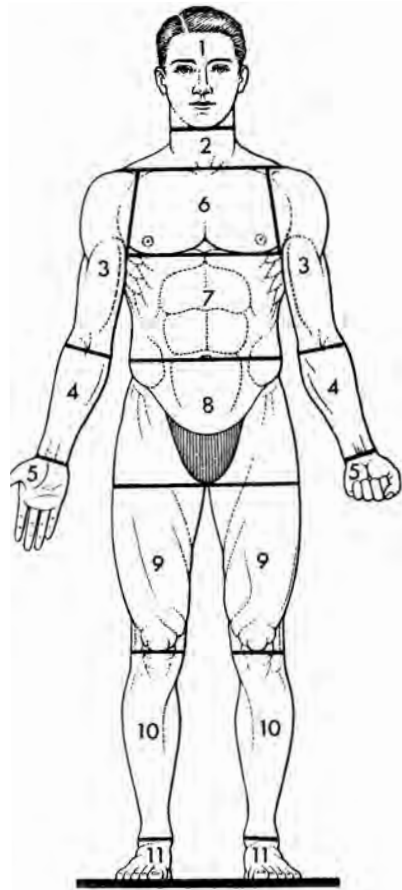
Another avid reader of that series was Willoughby's mentor, Al Treloar. On 15 September 1930, Treloar wrote to Willoughby in Santa Barbara, where he had moved in October 1929. Treloar told him he had been following his articles in *Physical Culture* "with great interest," and complimented him on his improved writing style.¹¹⁶ Two weeks later, on 30 September 1930, Treloar sent Willoughby a longer and highly detailed analysis of his "formula for computing the approximate weight of the body from the 18 common girth measurements." Treloar's



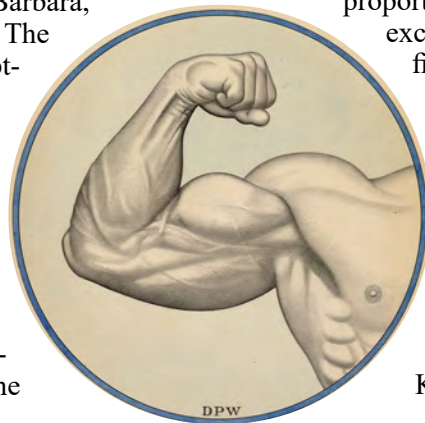
In *Physical Culture* magazine in September 1929, Willoughby included this drawing to show both how a person should stand to take the measurements described in the article, and, more importantly, what the ideal man should look like. His ideal was based on the famous statue from Ancient Greece called The Doryphoros, or Spear Carrier, although Willoughby's ideal does not match the Doryphoros for all measurements.

role as sounding board and mentor for Willoughby's ideas on measurements is clearly revealed in this letter, for like a good teacher, Treloar first praised Willoughby, calling his proposed formula "ingenious," before taking issue with some of the assumptions and mathematical calculations. "It is not always safe to make a formula from observed results," cautioned Treloar. "Your method of obtaining the constant divisor by dividing by the known weight in a number of cases, from a mathematical standpoint, is beginning from the wrong end." He suggested Willoughby think of the various sections of the body as cylinders, explaining that "the volume of a cylinder varies directly as the square of the circumference." The letter then goes into a highly technical discussion about using the cylinder approach for estimating weight, at the end of which Treloar wrote, "With only 18 ordinates, it now seems necessary to do a little guess work, and it is probable that about 2.32 is nearer the correct factor than 2.5. So our final divisor would consist of the following: 18, 12.5664, 31.25 and .431 (reciprocal of 2.32) all multiplied together." The letter concludes with Treloar asking Willoughby to respond, "I would really like to hear from you after you have gone over the above figures."¹¹⁷

David's mother and sister, Hazel, had moved with him to Santa Barbara, once again leaving his father behind. The move was driven by Willoughby's accepting a job to do medical illustrations for a book on endocrinology that was being written by William Engelbach, the first doctor to experiment with administering Human Growth Hormone exogenously.¹¹⁸ Willoughby had helped Engelbach with illustrations in Los Angeles, and happily accepted when Engelbach asked him to do the illustrations for his *magnum opus*, a four-volume scientific treatise titled *Endocrine Medicine*, that a team of people were helping him to write in Santa Barbara. Engelbach was one of the most eminent endocrinologists in America at this time, and one of his partners on the project was a Los Angeles physician, Eberle Kost Shelton. In Willoughby's personal archives, there is a research proposal titled "Outline



To use The Willoughby Method properly, you took measurements of 11 different parts of the body and then analyzed those measurements against formulas created by Willoughby. In correspondence with Treloar, it's clear that he was an important sounding board for Willoughby in creating this system.



Among the valuable assets of the Willoughby Collection are his original drawings. They include fossil drawings, sketches of historic figures from the world of strength, pictures of animals, and drawings like this flexed biceps representing "how a muscular 19-inch arm would look on a man 5 feet 8 inches in height. The proportionate bodyweight would be about 215 lbs."

of Proposed Study to Determine the Proportions and Characteristics of the Optimal Human Figure," that outlines his plan to weigh and measure both men and women in order to determine anthropometric standards. Although it is not dated, does not suggest where such research would be done, and does not identify who would fund such an experiment, its existence strongly suggests that part of his time in Santa Barbara was connected to anthropometric research, as he also began working with Dr. Shelton shortly after the move.¹¹⁹

These early years in Santa Barbara must have been exciting, and deeply satisfying for Willoughby. After the pride he found in seeing his ideas on measurements in print in *Physical Culture*, Willoughby aimed yet higher and in 1932, published "An Anthropometric Method for Arriving at the Optimal Proportions of the Body in any Adult Individual," in *Research Quarterly*, the most important physical education journal of that era. For a man with no academic position, and less than a full year of high school to be published in a peer-reviewed journal such as this was extraordinary.¹²⁰ What made the publication even more surprising is that it was an experimental research report.¹²¹ Willoughby's subjects were 52 adult males and 20 females who possessed "excellent

proportions" and were judged to have "good or excellent" physiques.¹²² Willoughby's use of fit, well-muscled subjects as the basis of determining a method to advise people on weight loss and exercise made his approach unique, he explained in a later article, because "Other, mass studies have been made on thousands of 'average' (mostly non-athletic) men and women, by life insurance companies and public health organizations."¹²³

In May of 1932, physician E. Kost Shelton presented a paper titled "The Method of Willoughby" to the Annual Meeting of the Association for the Study of Internal Secretions, in New Orleans, Louisiana. In September, Shelton's paper appeared in the distinguished medical journal *Endocrinology*, where he laid out three aims for the paper: 1) to introduce the Willoughby Method of Anthropometry; 2) to discuss how the computations



In 1929, Willoughby moved to Santa Barbara, California where he became involved in a number of different activities related to research on human anthropometry and also opened a commercial gym. This photograph shows Willoughby in October of 1934, holding an unidentified man overhead, while training on the rooftop of the gym.

and measurements should be made when employing the method; and 3) to share the results of two years of experimentation with the method in his medical practice.¹²⁴ Shelton was careful to give Willoughby full credit as the sole originator of the method, praising him as a man who, "Without benefit of training in the medical sciences . . . has, through constant study, familiarized himself with the bony framework and musculature of the body far more than the average physician."¹²⁵

The article in *Endocrinology* pushed Willoughby into the national spotlight in the early 1930s. Journalist Jane Stafford reported on The Willoughby Method in a

full-page newspaper article titled "Why Your Ankles Tell What You Should Weigh," that appeared in dozens of iterations in American newspapers. Written for News Week Magazine and Science Service, a news syndicate that sold content to American newspapers, Stafford's article appeared as early as 2 September 1932 in Ames, Iowa, and Columbus, Indiana, and was still turning up in newspapers more than a year later.¹²⁶ A similar story written for the American Weekly News Service, ran under the title "A New Way to Discover How Good Your Figure Is," and appeared simultaneously in numerous papers on 2 April 1933 and then, like Stafford's article, continued to circulate in small town papers for several more months.¹²⁷

The Willoughby Method resurfaced in the national press in 1936 when an exposé about improprieties in the judging of beauty contests made the rounds, and it appeared again when the first Mr. America contest was sanctioned by the AAU in 1940.¹²⁸ New York columnist John Chapman, questioned what the standards for the Mr. America contest might be, citing Willoughby's work on proportion and measurements in his speculations. Chapman's hope, he told readers, was that the winner would look more like the Greek statue called the Doryphoros, or Spear Carrier, than the Farnese Hercules. That hope was not granted, however, as the most heavily muscled man in the contest—John Grimek—emerged victorious. Grimek's statements about the impact of Willoughby's *Physical Culture* articles on his career, mentioned earlier, seem to suggest, however, that Willoughby helped the right man win the Mr. America after all.

Willoughby's work with Dr. Engelbach ended on 31 January 1931 when the book was submitted to the printers. It was heralded as the most important work on endocrinology in the first half of the twentieth century, upon its release. Willoughby contributed most of the hand-drawn illustrations and the vast majority of the text and data found in Chapter 7, titled "Anthropometry," based on



This photograph shows Dr. William Engelbach (second from the right) and the enormous staff that helped him publish his foundational, four-volume text, titled *Endocrine Medicine*. Willoughby did illustrations for the books and also contributed heavily to the chapter on human anthropometry. Willoughby, sporting a light colored suit and a new mustache, is the fifth man from the left in the back row.

The Willoughby Method.¹²⁹

In a letter written in 1937, Willoughby explains that he spent the middle years of the 1930s “engaged in various lines of commercial work through the sheer necessity of making a living.”¹³⁰ In a record book he noted that he designed tables for life insurance companies, drew pictures of shells for a professor at UCLA, worked on a handbook of anthropometric diagnosis, worked at a physical therapy clinic, and even attempted to sell life insurance for New England Mutual Insurance during the early Depression. He tried to make a go of the new gym he opened after arriving in Santa Barbara and several photographs in his archives were taken at his new studio. One even has a note on the back claiming that Jean Paul Getty also trained there at times.¹³¹ In the 1936 *Santa Barbara City Directory* a “physical culture studio” is listed at 114 East Carrillo Street in downtown Santa Barbara for Willoughby, but photographs in his collection suggest it began as early as 1934.¹³²

Willoughby also worked on adapting his articles from *Physical Culture* into his first mail-order course, *Arm Development*, released in 1932, and followed it with *The Willoughby Method of Home Physical Training* in 1933.¹³³ Like other training courses on the market, Willoughby promised that The Willoughby Method would produce “big muscles and a fine,



This photograph of Willoughby, taken on the roof of his gym in Santa Barbara, shows him carrying more muscle on his frame than any other photo in our archive. The large scar on his abdomen is from his botched appendectomy.

athletic figure,” and described it as a “simple, practical method” to be performed individually in the home, developed from his own experience and research.

Choosing to call it “The Willoughby Method,” even though it was not the same as his measurement schema in the *Research Quarterly*, also made sense, given the publicity he received. The course contained more exercises than others on the market at that time and he promised buyers that he would respond to all correspondence and help them along the way.

In its advertising, however, he made the same kind of broad claims as others, telling readers that The Willoughby Method would allow one to “tone up your vital organs, build up your muscles, and gain a body of superb strength and shapeliness. Whether overweight or underweight, you are shown how to attain your ideal weight and muscular proportions.”¹³⁴ Over the next several years Willoughby garnered much praise for the course. Al Treloar, not surprisingly wrote the introduction, and dozens of known physical culturists on both sides of the Atlantic (Ray Van Cleef, John Valentine, Laurence Woodford, Leo Gaudreau, Ernst Weber, and

even Bert Goodrich, winner of the unofficial Mr. America contest in 1939) allowed Willoughby to include their photographs and written endorsements in the 1935 booklet he

sent to prospective students titled *Building a Muscular Body*.¹³⁵ Goodrich even claimed that he had trained “under your supervision, and therefore knowing of your vast fund of knowledge on all phases of physical culture, I always recommend ‘The Willoughby Method.’”¹³⁶

A letter from famed weightlifter Adolph Nordquest also praised the course saying, “Honesty, sincerity and high capability are expressed in your work; it is genuine

in every respect. I know that your course will be the means of reaching and influencing mankind in a big way . . . may your splendid message meet with an ever increasing range of success.”¹³⁷

Willoughby’s path to economic stability was stymied by the economic realities of the Great Depression, however. In his personal archives are a variety of publicity materials used in marketing the course. He began by selling it in 1933 for \$20.00 (or \$25.00 if one used the installment plan) and then lowered the price in November of 1935 to \$15.00 or \$18.75 if paid out over time. Although that sounds inexpensive to our modern ears, \$15.00 in 1935 had the buying power of \$291.00 in 2021, making the course a difficult purchase for most people at that time.¹³⁸ On 12 December 1935, however, Willoughby lowered his price again, offering the course for just \$5.00 as a Christmas special.¹³⁹

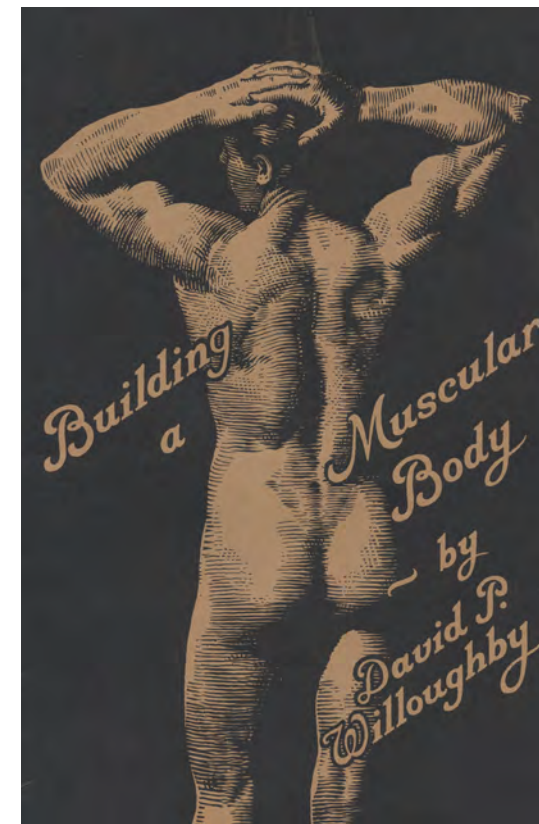
After several years of trying to make ends meet in Santa Barbara, Willoughby (and several thousand other artists) applied to be part of the Works Progress Administration’s Federal Art Project, a government program to support out-of-work artists and illustrators during the Depression. In 1936, he began working on “The Index of American Design,” a pictorial record of arts and crafts pieces made before 1890, funded by the government.¹⁴⁰ Samples of the art he produced for the project are now housed in the National Gallery of Art in Washington, D.C. as part of The Index of American Design archives.¹⁴¹ The Federal Art Project also brought him back to Los Angeles, as he reported to an office located within The Los Angeles Museum (now known as the Natural History Museum of Los Angeles County). At the museum he became acquainted with a number of the museum’s staff, including Dr. Chester Stock, the museum’s Director of Paleontology, who was working with the removal of fossilized bones from the La Brea Tar Pits and other paleontological projects.¹⁴²

In 1937, Willoughby made two important decisions. The first was to marry Jeannette Norine Murray, whom he had met in 1929 at Dr. Engelbach’s house. Jeannette also moved to Santa Barbara to work as a secre-



Willoughby drew this seal as the logo for The Willoughby Method Training Course launched in 1933.

in 1936, Willoughby was immediately curious about the paleontological discoveries coming out of the La Brea Tar Pits and he even drew images of several fossils for the museum. This led to a friendship with Dr. Stock and other paleontologists, and Willoughby was invited to go on a dig to search for fossils with Stock and other museum personnel that year. Finding himself in the midst of a new scientific community inspired Willoughby to think again about trying to have a future as a scientist. In July of 1937, no doubt with support from Dr. Stock, he wrote a two-page letter to Dr. Ales Hrdlicka, the Curator of Physical Anthropology at



Clyde Newman drew the cover for Willoughby’s 1935 advertising booklet to promote The Willoughby Method Training Course.

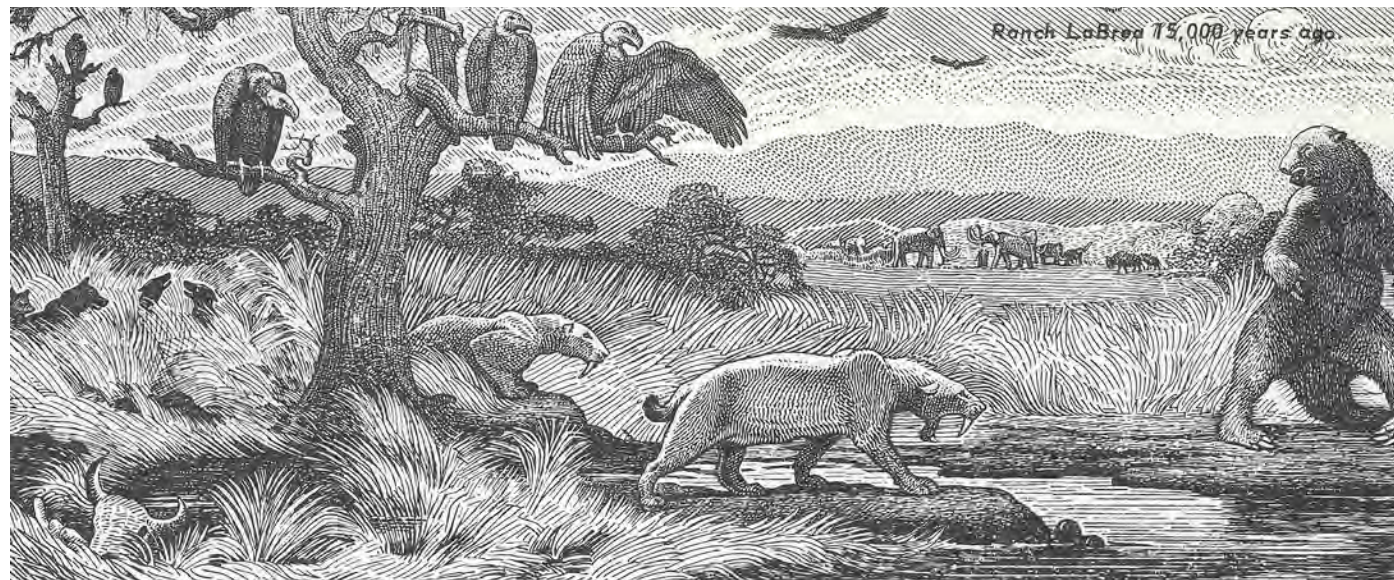
tary during the book’s production.¹⁴³ Six years older than Willoughby, Jeannette was a widow and the sister-in-law (from her first marriage) of Dr. E. Kost Shelton. She lived with the Sheltons before coming to Santa Barbara to assist with the Engelbach book, and after the book was completed, she continued to work in Shelton’s medical office after returning to Los Angeles. The couple married on 19 April 1937; and divorced six years later.¹⁴⁴

The second decision Willoughby made that year was to try one last time to find a path to a career in human anthropometry. Although working for the Federal Art Project

the Smithsonian, and attached to it a research proposal asking for funding to complete his research on human anthropometry. Willoughby’s first letter to Hrdlicka is primarily filled with his plan for the study and explained how The Willoughby Method was different than other anthropometric systems. However, he also hinted at the idea of a job being created for him, writing, “Needless to say, Dr. Hrdlicka, I am keenly interested in this kind of work and would like to engage in it professionally . . . I understand that there are no institutional physical anthropologists in Southern California,” leaving unsaid the idea that he should be hired as one.¹⁴⁵ Hrdlicka’s terse, almost rude reply was not supportive. He wrote that he feared Willoughby was attempting, “too much,” cautioning Willoughby that, “anthropometric work and especially the treatment and rational analysis of the results demand a great deal—are you sure that you have and can give it all that? Have you the



Taken on his birthday, 17 March 1930, Willoughby had finally purchased his first car, a Ford Model A, and could look toward steady employment for the next year as part of Dr. Engelbach’s team.



In 1936, after struggling to make it financially in Santa Barbara, Willoughby returned to Los Angeles and met through happenstance several of the paleontologists connected to the Los Angeles Museum who were excavating fossils from the La Brea Tarpits. This led to a new career for Willoughby working as an illustrator for California State University where he drew fossils and images such as this of what the area surrounding the La Brea Tarpits might have looked like more than 15,000 years ago.

necessary medical grounding?”¹⁴⁶ Willoughby’s five-page, single-spaced reply reveals both his fascination with human anthropometry as a subject and the pain he felt at his lack of formal education:

To sum up my inclinations and qualifications, I can say that ever since early childhood I have been interested in animals; but that only since engaging in the study and practice of physical training has this interest crystallized to the study of the human body. . . . If I were only in surroundings where these subjects could be properly studied and recorded, and had the inspiration conferred by employment in this work, I have not the slightest doubt that in short time I would be familiar with all the departments of physical anthropology and skilled in all its applications. But, up until now I have had to pursue the subject purely as an avocation and without any stimulus whatever except my own desire for knowledge. . . . Yes, Doctor Hrdlicka, I am certain I’ve got ‘what it takes’ . . . the particular patience, endurance and persistency necessary in searching for the truth, which, in the final analysis, is the goal of all scientific inquiry.¹⁴⁷

Hrdlicka was not convinced Willoughby had “what it takes,” howev-

er, as he wrote back within a week “to give you more direct advice.” Hrdlicka then told Willoughby (whom he’d never met) that he was not ready to do such work. His only hope, he explained, was to set aside ten years in which to prepare and go to a good medical school. By getting his medical degree he could then support himself, Hrdlicka told him, while working as a research assistant after graduation at an anthropometric lab like the one at Harvard. And after that, he continued, Willoughby should spend six-months or so in Europe, visiting the best anthropological establishments



In 1938, Willoughby began working as a researcher and illustrator for the Department of Geology at Cal Tech University. He worked directly under the supervision of famed paleontologist Dr. Chester Stock who became Willoughby’s second intellectual mentor. In this photo of the Geology Department’s Mudd Laboratory staff from 1948, Willoughby is the third man from the left in the second row; Dr. Stock is second from the right in the first row.

there. Only then would he be ready, Hrdlicka wrote, “You are still young enough for all this, and there would remain to you probably twenty or more years for fruitful work of the right quality.”¹⁴⁸

Although young by some standards, Willoughby was already 36 years old when he read these lines and he had to know that his economic circumstances and lack of high school and college made medical school virtually impossible. However, Hrdlicka’s last sentence was the real death knell for Willoughby’s dream, as Hrdlicka closed the letter by telling Willoughby that if he did not go to medical school, “you will remain discouraged and overworked, half-competent; and in another ten years it will be too late for everything.”¹⁴⁹

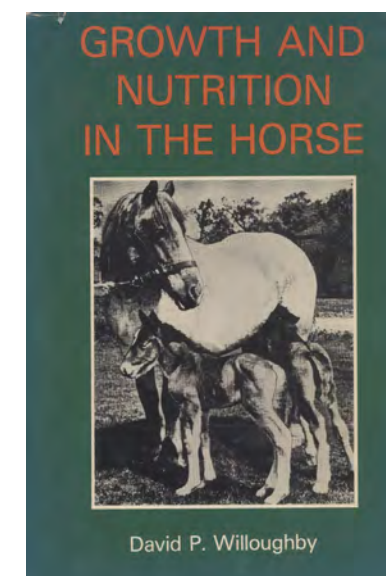
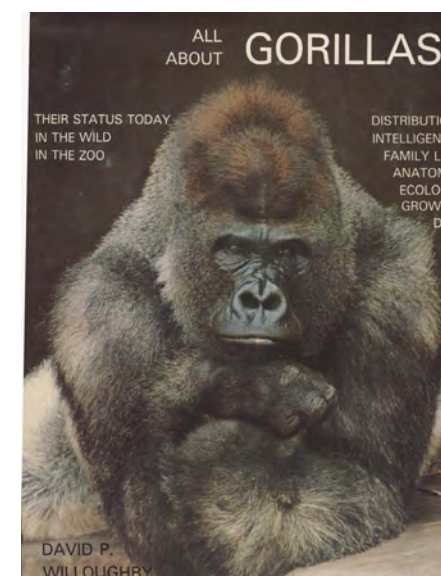
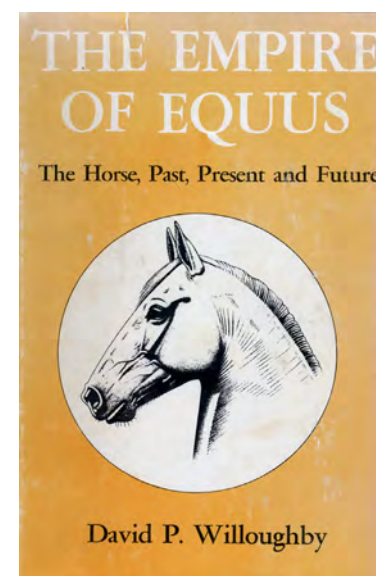
NOT TOO LATE FOR EVERYTHING

We can only speculate at how Willoughby felt after receiving Hrdlicka’s second letter, but it seems to have been an important moment in Willoughby’s life as it marked a turning away from his dream of being an anthropometrist of living humans and refocusing his enormous energy and love of measurements on animals, especially those long dead. To make this paradigm shift, Willoughby was again assisted by a mentor, the paleontologist and geologist Dr. Chester Stock, who hired Willoughby to assist him with his various research projects related to natural history at The California Institute of Technology (Cal Tech).

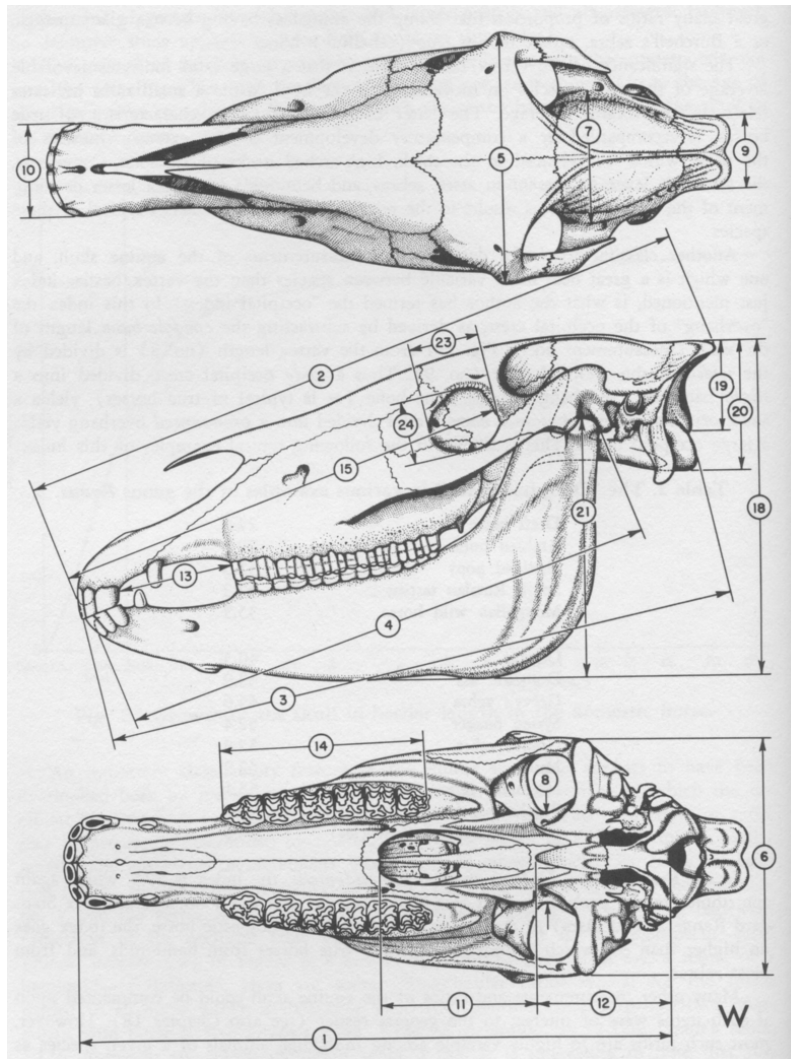
Willoughby began working under Dr. Stock’s supervision as a member of the Department of Geology, in the fall of 1938. His job title was Scientific Illustrator and Research Assistant in Vertebrate Paleontology, but in later years he also taught a class at Cal Tech in Geologic Illustration.¹⁵⁰ Stock and Willoughby worked together almost every day on routine matters, but Stock also taught Willoughby and encouraged him to become proficient in

osteology (the study of the structure of bones); vertebrate paleontology, particularly of the larger mammals removed from the La Brea Tar Pits; and modern statistical measures so he could assist with zoological and paleontological data. Because of Shelton’s guidance and support, Willoughby later described these years as a time of “rapid, almost continuous, gain in knowledge.”¹⁵¹ His first love remained measurements, of course, but he began working more like a paleontologist or anthropologist and using bones to learn about the evolution of horses and zebras, the great apes, and elephants. He worked on his personal research projects after normal working hours and on weekends, even during World War II when he was reassigned from Stock’s lab to Cal Tech’s Experimental Radiation Lab where he worked on secret projects for the Navy.¹⁵²

As Willoughby turned his enormous intellectual energies toward paleontology he began building a reputation for himself in this new field. One of Willoughby’s first research forays was to look at the limits of human obesity, publishing an article in *Human Biology* that was then picked up by *Time* magazine and national newspapers in 1942.¹⁵³ Willoughby next appeared in national publications in 1950 when he published his research findings on the height of gorillas in *Scientific Monthly*. That research, based on hundreds of measurements of gorilla bones that he had made since arriving at Cal Tech, was again picked up by newspaper wire services.¹⁵⁴ Over the next several decades Willoughby published many articles in scientific publications on a variety of topics.¹⁵⁵ He even wrote a six-hundred-page monograph on the fossil bones of horses and zebras taken from the La Brea Tar Pits (a document that is now housed at the Los Angeles County Museum of Natural History) that demonstrated how previous scientists looking at early horse and zebra fossils had misinterpreted what they were seeing and thus changed the paradigm for how scientists thought about the evolution of



After his retirement from Cal Tech in 1969, Willoughby did not “go gentle into that good night,” and instead followed Dylan Thomas’ advice, ignored old age and continued working at a frenzied pace. Three books on natural history appeared in that decade: *The Empire of Equus* in 1974, *Growth and Nutrition in the Horse* in 1975, and *All About Gorillas* in 1978. All three books were filled with art, charts, statistics, and incredibly detailed text written by Willoughby.



Drawing by Willoughby of a "tar-pit horse" skull from the Rancho La Brea Tar Pits in Los Angeles. This image appeared in his book, *The Empire of Equus*.

these animals.¹⁵⁶ Willoughby also published a number of articles in peer-reviewed zoology and paleontology journals and wrote three highly-regarded books: *The Empire of Equus*, 1974; *Growth and Nutrition in the Horse*, 1975; and *All About Gorillas*, 1978.¹⁵⁷

Willoughby and Dr. Stock were collaborating on a book about the evolution of the horse when Stock died unexpectedly in 1950. After Stock's death, the Paleontology Department, as Willoughby put it, "gradually faded away" over the next couple of years. The fossils, bones and other specimens were transferred to the Los Angeles County Museum, and Willoughby was, once again, forced to look for other work.¹⁵⁸

Willoughby had continued to write for the muscle magazines during these years at Cal Tech, and he had produced other training booklets, several of which he co-authored with fellow measurement/statistics enthusiast George Russell Weaver in the 1940s.¹⁵⁹ By then, there was also a new muscle magazine on newsstands called *Your Physique* that was selling well, and Willoughby began writing for the Weider publication in 1943. His articles in *Your Physique* in the 1940s covered training methods,

measurements, nutrition, longevity, and the history of the Iron Game.¹⁶⁰ In the early 1950s, Weider, who openly admired the publishing empire Bernarr Macfadden had built, decided to begin several new magazines and diversify his offerings to appeal to more mainstream tastes as Macfadden had.¹⁶¹ In June of 1953, Weider offered Willoughby the chance to start a men's magazine about animals and adventure called *Animal Life*. The offer was well-timed given the closing of the paleontology lab at Cal Tech and so Willoughby moved to New Jersey to oversee the magazine's production from Weider's new offices in Jersey City.¹⁶²

The first issue of *Animal Life* appeared in December of 1953, and Willoughby was listed as editor-in-chief of the bi-monthly publication. It continued to come out every other month with Willoughby as editor, but sales were not overwhelming. In the April 1955 issue he was demoted to "Western Editor," and his address inside the magazine indicated he had moved back to Pasadena, California, where he lived while working with Dr. Stock.¹⁶³ Willoughby's archives provide no definitive evidence as to why he left New Jersey, or why he felt so bitterly toward Joe Weider for the remainder of his life. The problem clearly related to money, however, as Ottley Coulter asked Willoughby in 1964 if Weider had finally paid him the money he was owed.¹⁶⁴ In several letters in later years, Willoughby criticized Weider, calling him "duplicitous" in a letter in 1976, and writing in a 1979 letter to "avoid Weider as you would the plague!"¹⁶⁵ Also worth noting is that Willoughby took no pride in having served as editor of the magazine. It is not mentioned by name in any of his biographical profiles and, on most such documents he failed to mention editing a magazine at all.¹⁶⁶

When Willoughby returned to California, he did not return directly to Cal Tech but worked as a draftsman and illustrator before finally landing a job in 1958 as "Engineering Draftsman and Technical Illustrator," for NASA's Jet Propulsion Laboratory located on the campus.¹⁶⁷ He spent the next ten years working there, putting in more than 50 hours a week helping America win what was then called "the space race." He worked as the technical artist on the Mariner, Ranger, Surveyor, and Voyager spacecraft projects, and copies of many of these drawings are in his archives.¹⁶⁸

On 31 March 1969, Willoughby retired from Cal Tech after working more than 25 years at the university. With his second wife, Carol Harwood Kelley, whom he had married in 1946, the Willoughbys then bought a house in Laguna Beach, California, where David took over the garage as his office and art studio, and Carol worked on her own art in the main house.¹⁶⁹ The house was well sited, on a hillside suburban street with a distant view of the Pacific Ocean. Willoughby spent far more time in his garage than

he did enjoying the view, as his drive and enthusiasm for work was undiminished by retirement.¹⁷⁰ Indeed, the volume of his publications in the last decade or so of his life was truly extraordinary. He claimed in an interview that it came from "contemplating the thought that if I don't get this out, it will go down the drain."¹⁷¹ We like to think he may also have been motivated by showing Dr. Hrdlicka it actually "wasn't too late for everything."

ARCHAEOLOGIST OF THE IRON GAME

Just as Willoughby had saved all the notes and charts he and Dr. Stock had been working on related to the evolution of the horse, he had also been systematically gathering information about the lives, lifting records, and measurements of strongmen and strongwomen since the 1920s. In many ways, his approach to history was rather like that of an archaeologist. Because he was among the first to try and write the history of strength, he had to dig to find the facts, records, and statistics that enabled him to make sense of the vast landscape that the Iron Game covered over the course of the twentieth century. And like an archaeologist, he catalogued those facts on detailed data sheets containing records, measurements, and comparisons to other lifters at different times in history. Willoughby began to be regarded as the most important historian of the Iron Game in the late 1930s with the publication of a series of articles in the British magazine *Superman*. As a leadup to the series, Willoughby appeared on the cover in October of 1938 where he was described as the "recognized professor of physical culturists."¹⁷² Two months later, the series of historical articles "by a brilliant writer," began in the magazine. Willoughby called the series "Famous Strong-Men and Their Records," explaining that he believed that many lifters, as had happened with him, wanted to learn more about the history of strength after they began training. His hope, he explained, was that these articles would inspire and encourage such lifters. It was in this spirit, he concluded, that "I present this series, the result of more than twenty years of study of strong-men, physical development and kindred subjects."¹⁷³

The *Superman* series began with the rise of weight lifting in nineteenth-century America and covered such early figures as George Barker Windship, William Buckingham Curtis, Richard Pennell, Robert J. Roberts, Charles G. Jefferson, and the man known as "Ajax" (Johnson Whitman), the muscular policeman who pushed a 27,400-pound freight car up a slight grade for about 25



In 1958 Willoughby was again hired by Cal Tech to work in NASA's Jet Propulsion Laboratory where he contributed to the Mariner, Ranger, Surveyor and Voyager space missions. This large watercolor painting was made by Willoughby for the launch of the Mars Missile in 1959.

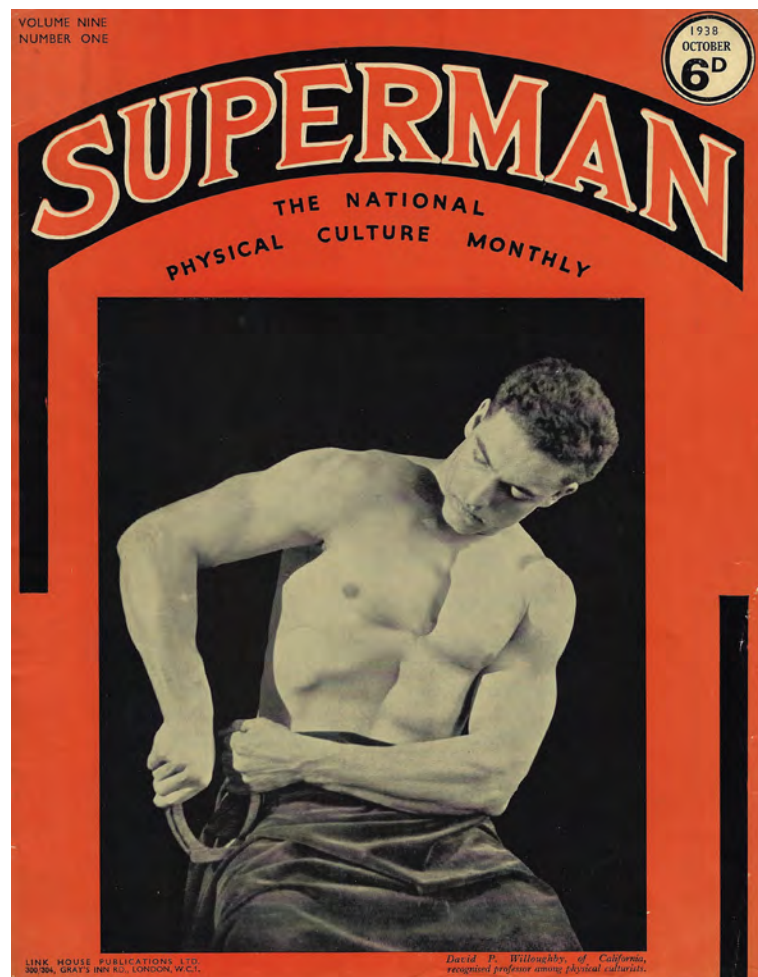
feet.¹⁷⁴ In the months that followed, he profiled Sandow, Louis Cyr, and Warren Lincoln Travis in standalone articles and then returned to covering multiple professional strength athletes in the same article. The final article appeared in September 1939.¹⁷⁵

Although Willoughby also contributed historical articles to *Your Physique* and *Strength & Health*, Willoughby's most important historical work appeared in *Iron Man* magazine beginning in 1956.¹⁷⁶ He called this series, "The Kings of Strength: A History of Strongmen from Earliest Times to the Present Day."¹⁷⁷ Willoughby reveals how difficult it was for him to accumulate the historical information he pulled together for the series in his introductory article. His sources he explained, came from Edmond Desbonnet's 1911 book, *The Kings of Strength*, and the even rarer German book, *Der Kraftsport*, written in 1907 by Theodor Siebert.¹⁷⁸ He then discussed the rise

of English-language literature on strength and strongmen, citing Otley Coulter, Mark Berry, Ray Van Cleef, and Leo Gaudreau for their occasional articles dealing with the history of strength. Willoughby's short literature review is a useful guide to the evolution of the Iron Game's historical knowledge, but it fails to tell the full story of his research methods. That tale is best revealed by examining his surviving correspondence with men like Al Treloar, Otley Coulter, George Russell Weaver, and Sig Klein. Those letters are filled with eye-witness accounts of strongmen and strongwomen they saw and what the weights and lifts were in those performances.¹⁷⁹

Willoughby planned to expand the articles in the "Kings of Strength" at a later date and publish them as a book. However, somewhere in the 1960s, that book became sidelined by a much more ambitious project that resulted in his *magnum opus*, the 665-page *The Super Athletes: A Record of the Limits of Human Strength, Speed and Stamina*. This book is the ultimate expression of Willoughby's intellectual passions, combining history, measurements, strength, physical performance, and statistics. It is an analytical treasure-trove of information on human athletic performance. It is also filled with numerous drawings, graphs, and statistics all created by Willoughby without access to computers. The fact that this book was published in 1970, just a year after he retired from Cal Tech, makes its achievement even more extraordinary. It is his true *tour de force*.¹⁸⁰

Willoughby's aim in *The Super Athletes* was to honor athletes displaying extraordinary "muscular and organic strength rather than skill and patience," by analyzing their achievements based on body size, conditions and equipment used, and the historical moment in which a record was set. His aim was to judge the merits of say, a curl done in 1925 by a 175-pound man, with a 400-pound bench press made in 1965 by a 240-pound man. To make such comparisons, Willoughby again came up with elaborate mathematical formulas as he had done when creating



Willoughby appeared on the October 1938 cover of *Superman* as a way to introduce him to their mostly British readers. His series, "Famous Strong-Men and Their Records," began in December.

The Willoughby Method. The end result was a book, more encyclopedia than narrative history, containing more than 1800 individual entries. It is a book that continues to be regarded—fifty years later—as the most important volume ever written on the history of strength. Willoughby included the records of amateurs and professionals, men and women.¹⁸¹ He also included records for things that didn't happen in contests, like pinch-gripping barbell plates, and one-finger chinning. His goal, he wrote on the back cover, was to survey, dissect, and illuminate human achievement in a manner unique in sports literature.¹⁸² He succeeded, in spades.

In the years after its publication *The Super Athletes* was frequently discussed on newspaper sports pages, in book reviews, in muscle magazines, and it has even been used as a source for academic articles. Carl Janowitz, sports editor of the *Desert Sun* in Palm Springs, for example, wrote a glowing review of the book, describing it as "one of the most intriguing books" he had ever seen, and calling it "thoroughly enjoyable and educational."¹⁸³ Famed journalist Heywood Hale Broun, who wrote for the *Chicago Tribune*, first gave his readers some examples from *The Super Athletes*, and then described it in elegiac terms. Reading the book had clearly moved Broun. He found it "something more than a record book. It is that most mysterious of scholarly exercises, a work of love."¹⁸⁴ Historian John Lucas at Penn State University used Willoughby's book as a major source for his 1977 paper on "Anomalies of Human Physical Achievement," describing *The Super Athletes* as "fascinating," "reliable," and "a gold mine," and then cribbing heavily from it for his own paper on the limits of human performance.¹⁸⁵

Like other aging scholars, Willoughby fretted over whether *The Super Athletes* would continue to be read after the initial fanfare of its release. He wrote to an old friend in 1982 that he wondered if any younger lifters would have an interest in reading about the history of weightlifting. It is no real matter to me, Willoughby ex-

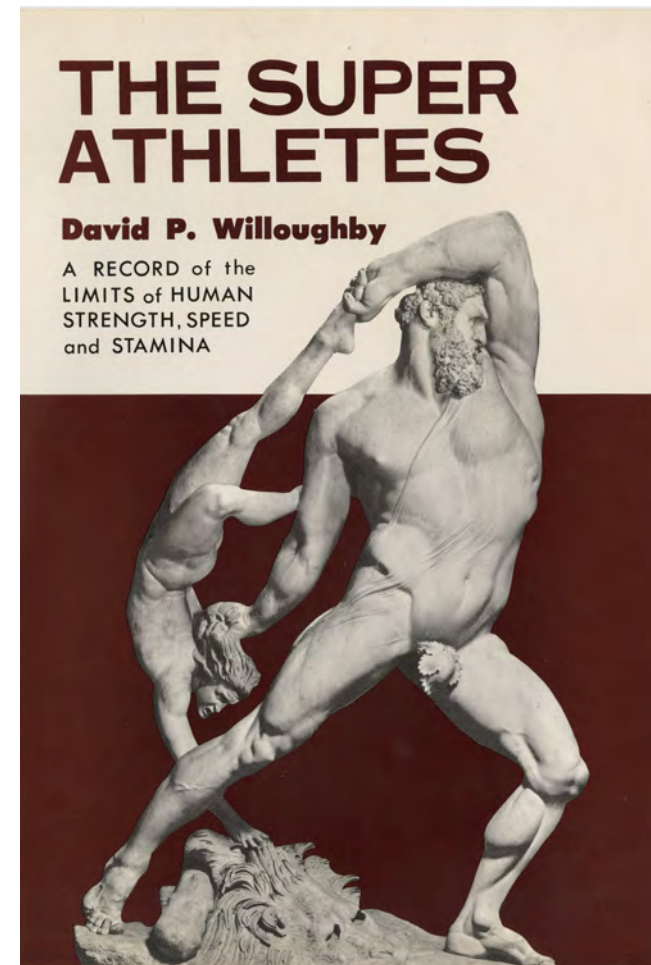
plained, if the younger lifters don't read this book, "for you and I will read it and so will many others of our generation."¹⁸⁶ Willoughby then went on to explain why he felt so compelled to write *The Super Athletes*: "if I do not tell about the feats of the great old-timers, who else will?" At age 75, he made a similar statement to a local reporter who asked why he continued working so many hours each day. Willoughby admitted he was driven by the belief "that if I don't get this out, it will go down the drain, and I hate to think of accumulating something for 40 or 50 years just to see it go."¹⁸⁷

English professor Al Thomas, champion of women's lifting, sent one of the last letters Willoughby ever received from a weightlifting friend. The letter was enclosed in a Christmas card in December 1982 and Thomas sent it to tell Willoughby how much his published works and the exactitude he employed in creating them had meant to him. "Your writings," Thomas wrote, "bring me much pleasure . . . (and) they are surely the standard metre against which all other scribbles are measured . . . They have been and are, and will remain, simply, the best." Thomas then told Willoughby about an epiphany he experienced the previous summer. He was filling out paperwork for Kutztown State College where he taught, and he was surprised to be asked to name "his hero" on the form. He thought of Lincoln first, he said, and then thought of several writers, but "they ain't heroes by a long shot. To make a long and maudlin story less oppressive," he wrote, "I kept returning to your name and finally wrote it onto the proper dotted line." Thomas realized the officials reading his form, would probably not know Willoughby's name—but guessed that many of them would not know novelist William Faulkner either. But thinking about his decision to name Willoughby had made Thomas "firmer in the correctness of my choice," he explained.¹⁸⁸ "I planned to sit down and say this many times," he continued, "but the occasion never presented itself." But now, he continued, as he was writing Christmas cards celebrating the birth of a man others would consider a hero, he wanted to let Willoughby know that he

had chosen him—and why. It was because of their shared love of strength and physical beauty, ideals he believed transcended mere weightlifting and bodybuilding. In closing, Thomas wrote, "All best wishes to you Dave, and to those whom you love. May your health remain vigorous. And I hope that you begin to receive the plaudits that your magnificent work has long deserved, plaudits which, even when received . . . have been too few and somewhat off target. May this new year bring you much happiness."¹⁸⁹

Sadly, Willoughby did not get to enjoy vigorous health in the new year. On 17 January 1983, he passed away in his sleep from pneumonia. He was 82 years old.¹⁹⁰ Well-known physical culturist Vic Boff, writing one of many tributes that appeared in the muscle magazines following Willoughby's death, helped capture Willoughby's seminal role in the evolution of the Iron Game. "Greatness may be measured by the survival value of a man's efforts," Boff wrote. Willoughby, he continued, "was the world's foremost historian of The Iron Game."¹⁹¹ David P. Webster, who shared the same initials, as well as Willoughby's love for the history of strength, also clearly viewed Willoughby as a role model, closing his obituary by writing, "I am happy and proud to have Dave

as a friend and journalistic colleague and the best way I can mark our friendship is to ensure that the perpetuation of authentic strength history is continued. This I intend to do and although in future such works may be by another David P.W. I will always, when appropriate, credit the old master, David P. Willoughby."¹⁹²



Willoughby's *magnum opus*, *The Super Athletes: A Record of the Limits of Human Strength, Speed and Stamina*, was the ultimate expression of his intellectual passions, combining history, measurements, strength, physical performance, and statistics. It is a 665-page, analytical treasure-trove of information on human athletic performance compiled without the use of computers.

In the Iron Game, David's life was devoted to questions such as what constitutes an ideal physique, how we should conduct weightlifting contests, what are the limits of human strength and endurance, and what should we remember about the past? His love of accuracy and meticulous detail has provided not just a model, but the very foundation, for all scholars and amateur historians who continue to unpack the history of the Iron Game. We, and many other historians of physical culture, are deeply indebted to Willoughby for

setting us on the right path and opening our eyes to the rich history surrounding strength training and bodily symmetry. The ideas that inspired him and made him dig for the archaeological shards of the early Iron Game continue to be important and even inspiring to modern scholars.

As the authors of this much longer than normal biographical profile, we have tried to do our own excavation, examining Willoughby's life to understand the factors that drove him to create more scholarly work in his lifetime—on a vast array of subjects—than most full professors at major universities. Our excavations revealed more than we expected to find and so, to paraphrase the man himself, we too, felt compelled to put it all down, for if we don't write his history now, who else will?

We close therefore, as we began, marveling at Willoughby's intellectual rigor, his wide-ranging impact, and how he overcame his lack of formal education to accomplish so much. As a man who loved measurements, it is fitting he be regarded as one of the true giants of the Iron Game. And, what a shame that those who turned him away because of his lack of formal education could not have understood the full measure of this man. Willoughby was not too late for anything. He actually led the way, so lifters, bodybuilders, and even historians could follow.¹⁹³



As he aged, Willoughby was seen less and less within physical culture circles. He told Terry Todd in the late 1970s that people didn't want to see the old-man-versions of earlier, younger "ideal man" specimens. However, Willoughby actually aged well, as can be seen in this photo from the back cover of *The Empire of Equus* taken when he was 73 years old.



Willoughby's archives are filled with hundreds of pages of handwritten notes and charts recording the measurements and record lifts of strongmen and strongwomen. A close look at just the pages in this photo shows how big Sig Kein's biceps were, Milo Steinborn's height and weight, Lionel Strongfort's neck size, and dozen of other interesting facts. That Willoughby gathered, and so accurately recorded these kinds of data, make his collection of enormous value to scholars.

NOTES

- David P. Willoughby, "History of American Weightlifting: Alan Calvert and the Milo Bar-bell Company," *Your Physique* 11 (August 1949): 8. See also: Kim Beckwith and Jan Todd, "Strength: America's First Muscle Magazine, 1914-1935," *Iron Game History: The Journal of Physical Culture*, 9, no. 1 (August 2005): 11-13. The best source on Bob Hoffman is: John Fair, *Muscleman USA: Bob Hoffman and the Manly Culture of York Barbell* (Pennsylvania State Press, 1999).
- Vic Boff, "The Iron Grapevine," *Iron Game History: The Journal of Physical Culture* 4, no. 2 (October 1995): 20.
- Scholarship on Willoughby's life is remarkably scarce. See: Ryan Murtha, Conor Heffernan and Thomas Hunt, "Definition Diets and Deteriorating Masculinity? Bodybuilding Diets in Mid-Century America," *Global Food History* 7, no. 1 (2020): 71-91; John Fair, "George Jowett, Ottley Coulter, David Willoughby and the Organization of American Weightlifting, 1911-1924" *Iron Game History: The Journal of Physical Culture* 2, no. 6 (May 1993): 3-15; and Grover L. Porter, "The Superior Physique," *Iron Game History: The Journal of Physical Culture* 4, no. 4 (September 1996): 12-13.
- David P. Willoughby, "An Autobiography," *Iron Man* 42 (January 1983): 36-37; 105-106.
- Much of the information in this paper is derived from David Willoughby's personal archives at the H.J. Lutzer Stark Center. Not all parts of the Willoughby Collection are fully archived, however, and so in the notes that follow we have provided as much information as we can. Please understand that this means some files have bibliographic numbers assigned to them and some do not. Also, to save space, instead of writing out "David P. Willoughby Collection, H.J. Lutzer Stark Center at The University of Texas at Austin," the abbreviation "WC" will be used to indicate that this material is included in the Willoughby Collection.
- Tracking the life of Mary Ann Small through public records has proved complicated as is often the case with circus and vaudeville performers. Small was known at different times as Mary Ann Small, Mary Cherry (her mother's maiden name), Mary Ashworth, Mary Verona, and as Mary Ann Willoughby.
- Despite searches in three different genealogical online databases, (Ancestry.com; Genealogy.com and FamilySearch.com) no records can be found of Mr. Ashworth, this marriage, or the birth of their son, Harry.
- "Mother," handwritten narrative of the life of Mary Ann Small (Ashworth-Verona-Cherry) Willoughby. File: DPW B-1, F-002; "Personal Papers, Bibliographic/Autobiographic," WC. In subsequent footnotes this will be referred to simply as "Mother," handwritten narrative, WC.
- Cholera infantum or "summer diarrhea" was a leading cause of infant mortality in the nineteenth century. It was caused by poor hygiene, lack of breast feeding, feeding babies adult food, and heat. See: "Cholera Infantum or Summer Diarrhea of Infants," *Journal of the American Medical Association* 57, no 1 (1911): 25-27. Willoughby described their cause of death as "summer colic." Unpublished document titled, "David P. Willoughby, Born Mar. 17, 1901," in Willoughby File: DPW B-1, F-002, WC.
- "Mother," handwritten narrative, WC.
- Again, no records of a divorce from Ashworth, marriage to Verona, or a death certificate for baby Walter was found in our genealogical searches. Verona worked as a circus manager and "advance man," after he and Mary Ann joined forces. See for example: "Walter Verona," *Cape Girardeau (Missouri) Democrat*, 23 Apr 1892, 12; "Mr. Walter Verona," *Quincy (Illinois) Daily Whig*, 30 July 1893, 8; "Signor Walter Verona," *Mt. Vernon (Indiana) Democrat*, 16 March 1883, 8.
- In 1885 the Forepaugh Circus season ran from April to October. "Adam Forepaugh Circus Routes, 1878-1888" Circus Historical Society, at <https://classic.circushistory.org/Routes/4P1878.htm>. "Mother," handwritten narrative, WC.
- See: "Showboat," *Encyclopedia Britannica Online* at: <https://www.britannica.com/art/showboat-theatre>; and Advertisement "Wait, Look For Our Coming . . . Three Floating Palaces," Burlington (Iowa) *Hawk Eye*, 21 September 1890, 7.
- "Outfit" was Mary Ann's term for a touring company of performers of any sort. "Mother," handwritten narrative, WC. See also: "New and

- Novel: Eugene Robinson's Mammoth Three Floating Palaces," *Henry (Illinois) Republican*, 8 August 1889, 2. In this newspaper account Verona is described as "The Fire King."
- Mauberrret owned the Pelican Printing company in New Orleans.
 - "Mother," handwritten narrative, WC.
 - Names were apparently fluid in Mary Ann's family circle, which is not unusual for circus performers and entertainers. Although this child is called Mercedes Virginia Verona in Mary Ann's memoir, the New Orleans, Louisiana, Birth Records Index, states that the child born in 1892 was named Mercedes Veronica Willoughby. The mother is listed as Mary Cherry; Cherry being the maiden name of Mary Ann's mother. David Willoughby is listed as the father. Why Verona is not listed as her last name is not clear, but since she was born on the Floating Palace it is highly likely that Mercedes' birth was not recorded until sometime later, by which time, Mary Ann had already married Willoughby. Virginia Verona is the name used by David's step sister in later years. See: "92 and Independent: Fighting for Her and Our Rights," *Los Angeles Times*, 15 January 1975. Newspaper clipping in Willoughby Personal Papers/Correspondence File, WC. Carol Willoughby has written on the top of this clipping: "David's Step Sister." Other confusion comes from the fact that in a note about her husband's life, Mary Ann writes that David Sr. married Mary Ann Verona, not Small or Cherry. Later, when David's sister Hazel Willoughby is born in Minnesota in 1906, Mary Ann also lists her name as Cherry on that birth record. See: "Father," handwritten narrative of the life of David Willoughby, Sr. by Mary Ann Small," in file DPW B-1, F-002. WC.
 - The Harris Circus also had horses and the usual assortment of acrobats, clowns, and sideshow oddities. "Mother," handwritten narrative, WC. See also: "Nickel Plate Show," *Decatur (Texas) Wise County Messenger*, 9 September 1893, 4; and, Charlie Dubie, "The W.H. Harris World-Famous Nickel Plate Show A Circus Day of Forty-Seven Years Ago," *Hobby Bandwagon* 3, no. 8 (September 1948): 9-10.
 - The World Columbian Exhibition (Chicago World's Fair) ran from 1 May 1893 to 31 October 1893.
 - Heck and Avery's Museum was actually known as "The Vine Street Dime Museum," and was one of a group of dime museums modelled after P.T. Barnum's exhibition hall in New York City. Dime museums allowed the public to see circus and sideshow acts, view giants and other human oddities, see taxidermy examples of animals born with deformities, and so on. John Avery managed the Cincinnati franchise with Will S. Heck, who managed the Cincinnati Zoo. "Cincinnati Curiosities," Viewed at: <https://handeaux.tumblr.com/post/103283738542/cincinnati-family-freak-show-the-vine-street>.
 - Verona's date of death is not known. The *Cincinnati City Directory* for 1896 lists Walter Verona as a "lecturer" at Heck and Avery's Rooms, at No. 3, East 7th Street on page 1509. See also: "Mother," handwritten narrative, WC.
 - Ada Gray was a well-known actress who toured for several decades in the United States in *East Lynne* and other melodramatic plays. The Cincinnati newspapers show her performing in both *East Lynne* and *Camille* at Robinson's Theater between January and April 1897. See, for example the advertisement for the Robinson Theater on page 8 of *The Commercial Tribune*, 23 April 1897; and, "Robinson's Opera House," *Cincinnati Commercial Tribune*, 18 April 1897. "Mother," handwritten narrative, WC.
 - "Mother," handwritten narrative, WC.
 - Willoughby, "David P. Willoughby: An Autobiography," 36. No birth certificate for David Sr. can be found to confirm whether he had a middle name. All other official records list him only as David Willoughby. Young David was never known as David P. Willoughby, Jr.
 - "Father," handwritten narrative, WC.
 - David Sr. was then working for a tugboat company. It is not known if Mary Ann continued performing after this marriage.
 - The house was at the corner of Walnut and Levee Streets according to Mary Ann's memoir.
 - Hazel was born on 17 September 1906 in Eden Prairie, Minnesota. "David P. Willoughby, Born Mar 17, 1901." Handwritten page in Willoughby Biographical File, DPW B-1, F-002. WC.
 - "Willoughby, David P(atrick) 1901," printed scrap in Willoughby biography file. This was clearly printed after 1974 because of its list

of published books. On another typed page, entitled “Biographical Summary of the Investigator,” Willoughby writes, “Formal education terminated when in grade B-9 (1915).” Willoughby Biographical File, DPW B-1, F-002, WC.

30. Pencil sketch by David P. Willoughby. Carol Willoughby’s note on it identifies it as having been done when he was four years old. WC.

31. Inscription on the rear of photograph in the David P. Willoughby Collection: “This is our house showing part of Edith’s . . . Bought for \$3000!” There are three different addresses for the Willoughby’s in Minneapolis according to the *Minneapolis City Directories* for the years 1907-1912. See Hennepin County Library online copies at: <https://box2.nmtvault.com/Hennepin2/jsp/RcWebBrowse.jsp>.

32. Willoughby, “An Autobiography,” 36.

33. Ibid.

34. Nineteen-year-old Mercedes Virginia Verona did not make the trip to California with the family in 1912.

35. Willoughby, “An Autobiography,” 36-37.

36. Handwritten note on rear of photograph of David P. Willoughby with his trombone taken at age 13. It is not clear that the band was a money-making venture.

37. In 1916 Mary is living at 2045 Howard Street in San Francisco according to the *Crocker-Langley San Francisco Directory For 1916*, page 1932. She is not listed in the city directories for 1917 or 1918. Viewed at: <https://archive.org/details/crockerlangleysa1916sanfrich/page/1991/mode/1up?q=Willoughby>. Whether David Sr. stayed in California over the next several years is not known.

38. The Panama Pacific International Exhibition ran from 20 February 1915 to 4 December 1915. In addition to the main exhibits on the official fairgrounds, other forms of entertainment (circuses, vaudeville, carnivals, sports) also came to San Francisco that year. See: Panama-Pacific International Exhibition at: https://en.wikipedia.org/wiki/Panama%E2%80%93Pacific_International_Exposition.

39. “About the Author,” back cover biographical sketch of David P. Willoughby, on dust jacket for: *The Empire of Equus: The Horse, Past, Present, and Future* (New York: AS Barnes & Co; 1975).

40. Letter from H. Hesselmeier to Mary Ann Willoughby, 15 June 1918. The letterhead describes their company as manufacturers of conveying, elevating, screening, and mechanical power transmitting machinery. Willoughby Biographical File, DPW B-1, F-002. WC.

41. Willoughby, “An Autobiography,” 36.

42. Note on the back of the photograph of Willoughby at Meese and Gottfried Co., Willoughby Photography Collection, WC.

43. Willoughby’s decision to become an apprentice was not unusual in this era. According to Claudia Goldin, only 18% of American 15-18 year olds were enrolled in high school in 1910, and only 9% of Americans graduated. Claudia Goldin, *The Race between Education and Technology*. (Cambridge, MA: Harvard University Press, 2008), 195. See also: David Willoughby, “Biographical Summary of the Investigator,” typescript on two half sheets of paper, David Willoughby Biographical File, DPW B-1, F-002, WC.

44. The contest was held outdoors on the “Zone” at the World’s Fair. The Zone, outside the main fairgrounds, was a street filled with oddities, funhouses, risqué dance halls, and other carnival-like establishments. See: “Athletes to Contest for World Trophies at Panama-Pacific,” *San Francisco Chronicle*, 16 June 1915, 76; and “Weightlifters Meet Tonight on the Zone,” *San Francisco Chronicle*, 5 August 1915, 9. The contest was won by Noah Young, who would go on to a career in silent films. David P. Willoughby, “A Great Bodybuilder Passes On,” *Iron Man* 20 (June 1960): 50. See also: (Alan Calvert) “The Lifting Contest at the Panama-Pacific Fair,” *Strength*, 2 (September 1915): 17-21.

45. Beckwith and Todd, “*Strength*: America’s First Muscle Magazine,” 7-8.

46. “Autobiography,” handwritten, in yellow notebook, WC. Willoughby also went to Mrs. Kratzer’s resort in Glen Ellen in 1917 to recover from an illness. H. Hesselberger of the Meese and Gottfried Company wrote to Mary Willoughby about David’s poor health, “I have noticed for some little time that he has not been well,” he wrote, before going on to say he would hold David’s job for him if she wanted to send him to the country to get better. Letter from H. Hesselberger to Mary Willoughby 21 May 1917, Willoughby Biography File, WC.

47. Ernest Edwin Coffin, “David P. Willoughby: A Biographical Sketch,” *Iron Man* 4 (October-November 1941): 4.

48. David P. Willoughby, “Introduction,” Unpublished manuscript, in File #4, Publications and Courses, WC.

49. Penicillin, the first antibiotic, was not invented until 1928.

50. Annotation on rear of photograph of Willoughby in Glen Ellen, California. Willoughby Photography Collection, WC.

51. Willoughby: “An Autobiography,” and “Mother,” handwritten narrative, WC.

52. Marguerite Kratzer, who later became Marguerite Sutherland, had worked as a nurse in San Francisco. How she knew the Willoughbys is not recorded. Photos in Willoughby’s archives show him back at the Kratzer “resort” in 1927. See: Willoughby, “An Autobiography”; “Mother,” handwritten narrative; and Coffin, “David P. Willoughby: A Biographical Sketch,” 4. See also letter from Carol Willoughby to Jan and Terry Todd, 10 July 1984, Jan and Terry Todd Personal Archives.

53. Willoughby’s wife, Carol, claimed it was Mary Ann who “was the instigator of his sending for barbells to try and do something to help him regain his health.” Letter from Carol Willoughby to Jan and Terry Todd, 10 July 1984.

54. Willoughby, “An Autobiography,” 36.

55. “Anthropometric Record and Diagnosis” sheets filled in by Willoughby at age 17, age 26, age 28, and other anthropometric records kept on miscellaneous sheets in the Willoughby Biography File, WC.

56. Letter from H. Hesselmeier to Mary Ann Willoughby, 15 June 1918, Willoughby Biography File, WC. At \$18.00 a week, Willoughby was making less than \$900 a year, or about \$1000 a month in 2021 dollars according to www.dollartimes.com. See also: “Mother,” handwritten narrative, WC.

57. Willoughby only says that he lived with “his mother,” in San Francisco. Willoughby, “An Autobiography,” 36. Willoughby does dedicate his book, *All About Gorillas*, to “the memory of my parents, David and Mary Willoughby, who introduced me to the wonder-world of Natural History.” (New York: AS Barnes and Company, 1977), front piece.

58. Willoughby claims they returned in September of 1919, but Mary Ann, in her memoir, states it was July. Willoughby, “An Autobiography,” 36; and “Mother,” handwritten narrative.

59. Mary Ann and David Sr. remained married until his death on 25 May 1934. See: “Mother,” handwritten narrative and “Father,” handwritten narrative, WC.

60. Note to Jan and Terry Todd included in materials sent by Carol Willoughby in 1984, signed “CHW.”

61. “Autobiography” handwritten in yellow notebook, WC.

62. Willoughby worked at Wheeler-Sheridan until at least 1925. Work dates based on photos of slides in the Willoughby photo archive.

63. Willoughby officially joined the LAAC on 19 August 1921. “Autobiography” handwritten yellow notebook, WC.

64. The Edison film titled *Al Treloar and Miss Marshall Pos-ing*, can be seen on YouTube at: <https://www.youtube.com/watch?v=SQ89EREzoH0>. Miss Marshall was a competitor in the women’s contest. Treloar was also filmed in 1905 by William Dickson’s American Mutoscope and Biograph Company. See John D. Fair and David L. Chapman, *Muscles in the Movies: Perfecting The Art of Illusion* (Columbia: University of Missouri Press, 2020), 105. For information on Macfadden’s contest see: Jan Todd, “Bernarr Macfadden: Reformer of Feminine Form,” *Journal of Sport History*, 14 (1) (Spring, 1987): 61-62. Macfadden’s Physical Culture Exhibition ran from 28 December 1903 to 4 January 1904; Treloar was named the men’s champion on the final day of the exhibition.

65. Willoughby claimed Treloar became “a good all-round lifter, with exceptional ability in the bent press and at tearing playing cards.” David P. Willoughby, “Al Treloar—A Great Bodybuilder Passes On,” *Iron Man* 19 (June 1960): 22.

66. Records in the Harvard University Archive suggest Treloar’s father, Albert Jennings, who had been a principal and then the superintendent of schools in Manistee, Michigan, played a major role in getting Treloar to attend Harvard. See file titled “Jennings, Albert T. – s. 1894-1896,” UAIII 15.88.10 1890-1968, Box 2453, Harvard University Archives, Cambridge, Massachusetts.

67. Dudley A. Sargent, “The Strongest Man in the World,” *New York*

World, 16 June 1893. For more information on Sargent see: Carolyn de la Pena, “Dudley Allen Sargent: Health Machines and the Energized Male Body,” *Iron Game History: The Journal of Physical Culture* 8, no. 2 (October 2003): 3-19.

68. Letter from Al Treloar to Dave Willoughby, 22 December 1938, Treloar Correspondence File, WC.

69. Treloar’s freshman measurements were not recorded by Sargent himself, but by an assistant named Cutler. “Anthropometry Card No. 5684, Albert Toof Jennings,” Box 2453, Harvard University Archives, Cambridge, Massachusetts.

70. “Al Treloar, Physical Director L.A.A.C.” undated, printed clipping from the Treloar file, WC.

71. The marriage is reported in “Albert Toof Jennings Alumni Record,” in file “Jennings, Albert Toof,” HUG300, Box 526, Harvard University Archives, Cambridge, Massachusetts.

72. He stood 5’10 1/2” tall and weighed 186 pounds in 1903. Card showing Treloar’s measurement in 1903 in WC. See also the file titled “Jennings, Albert T., 1894-1896,” UAIII 15.88.10 1890-1968, Box 2453, Harvard University Archives, Cambridge, Massachusetts.

73. David Willoughby, “Al Treloar,” undated typescript, written as obituary or memorial piece. Treloar File, WC; see also: Measurement chart titled, “Al Treloar December 1903,” with annotations in Willoughby’s hand. Treloar File, WC.

74. Allen Guttmann, “From Ritual to Record,” (New York: Columbia University Press, 1979), 28-31.

75. David P. Willoughby, “Strongmen of The Far West,” *Health & Life* 1 (December 1922): 188-189. See also, Alan Calvert, “A Coterie of the Strongest Men in the United States: Athletics of the Los Angeles Athletics Club,” *Strength* 5 (July 1920): 18-19, 32.

76. Willoughby, “An Autobiography.”

77. David P. Willoughby, “With the Men of Iron: Plenty of Weightlifting Action in California,” *Health & Life* 2 (May 1923): 159, 178.

78. The contest was held in conjunction with the City of Los Angeles Gymnastics Championships in April 1924 at the Los Angeles Athletic Club. See also Fair, “George Jowett, Ottley Coulter, David Willoughby,” 13-15. Willoughby, “An Autobiography,” 37; and Willoughby, “With the Men of Iron,” 159, 178.

79. The lifts were the left-hand snatch, the right hand clean and jerk, two hands snatch (split style), two hands military press, and two hands clean and jerk. Willoughby made respectively, (in pounds and in order) 145, 185.5, 172, 156, and 240 for an 898.5-pound total. Willoughby, “An Autobiography,” 37.

80. Fair, “George Jowett, Ottley Coulter, David Willoughby,” 3-9.

81. Ibid.

82. Ibid., 6.

83. Letter, David Willoughby to “Dear friend (Ottley) Coulter,” 26 July 1923, Box 1, Coulter Correspondence File, WC. According to an online inflation estimator, five 1923 dollars would have comparable buying power to \$77.00 in 2021. Viewed at: <https://www.dollartimes.com/inflation/inflation.php?amount=5&year=1923>.

84. “Interesting Personalities—No. 1 (David P. Willoughby),” *Physical Fitness* 1 (January-March 1940): 3.

85. Willoughby, “Strongmen of The Far West,” 188.

86. See: Coffin, “David P. Willoughby: A Biographical Sketch,” 4. See also: “Six ‘Strong Men’ Organize Club,” *Los Angeles Evening Express*, 2 August 1924, 2.

87. Willoughby also went on to New York after Philadelphia and met Sig Klein. Fair, “George Jowett, Ottley Coulter, David Willoughby,” 13-14. For Willoughby’s articles in this era see: David Willoughby, “Strong Men of the Far West,” *Health & Life* 1 (December 1922): 188-189; David Willoughby, “Strong Men of the Far West,” *Health & Life* 2 (January 1923): 17, 30; David Willoughby, “With the Men of Iron: Plenty of Weightlifting Action in California,” *Health & Life* 3 (May 1923): 159; David Willoughby, “Report of the National Weight Lifting Championships,” *Health & Life* 3 (June 1924): 236; David Willoughby, “Southern California Weightlifting Championships is Held at San Diego,” *Health & Life* 3 (August 1924): 305; David Willoughby, “Muscular Iron Men of the Far West,” *Health & Life* 3 (September 1924): 341; and David Willoughby, “With the Men of Iron,” *Health & Life* 3 (October 1924): 381.

88. Fair, “George Jowett, Ottley Coulter, David Willoughby,” 13-14.

89. Letter from George Jowett to Ottley Coulter, 26 September 1924. Jowett-Coulter Correspondence Files, Stark Center.

90. Letter from Ottley Coulter to David Willoughby, 11 December 1966, Box 1, Coulter Correspondence File, WC.

91. Advertisement, “The Marvelous Effects of Bar-Bell Exercise,” *Physical Culture* 54, no. 1 (January 1925): back cover.

92. This was also done to help establish ACWLA records.

93. John Bradford, “American Continental Weight Lifter’s Association Notes,” *Strength* 10 (January 1926): 70-71.

94. “Interesting Personalities,” *Physical Fitness*, 3.

95. The AAU did not send weightlifters to the Olympics in 1928 either. Fair and Chapman, *Muscles in the Movies*, 106. To understand how the ACWLA failed (it stopped selling memberships in 1927) see: John Fair, “Father Figure or Phony: George Jowett, the ACWLA and the Milo Barbell Company, 1924-1927,” *Iron Game History* 3, no. 5 (December 1994): 20-22.

96. Fair, *Muscles in the Movies*, 123-130; and Benjamin Pollack and Janice Todd, “Before Charles Atlas: Earle Liederman, the 1920s King of Mail Order Muscle,” *Journal of Sport History* 44, no. 3 (Fall 2017): 339-420.

97. Willoughby, “An Autobiography.”

98. “Autobiography,” handwritten yellow notebook, WC. See also: Letter to Sig Klein, Willoughby claimed that he opened the “Willoughby Gym,” in December 1926, and ran it until June of 1929 when he moved to Santa Barbara. Letter from David Willoughby to Sig Klein, 8 December 1980, Sig Klein Correspondence file, WC.

99. “Interesting Personalities,” 3. See also: Letter from David P. Willoughby to Dr. Ales Hrdlicka, 17 September 1937, Willoughby Correspondence File, WC. The *1929 City Directory for Los Angeles* lists Willoughby’s gym on page 2448 in their business listings. No real name is given for the gym in that book. The “Health and Strength Gym” is used on an undated manuscript in the Willoughby Collection called “Outline Preliminary Course of Instructions in Exercises With Weights.” It can be found in “Willoughby Publications and Training Course #4,” WC. In the *Los Angeles City Directories* Willoughby is listed as a draftsman in 1926, and lived with his parents at 733 S. Burlington (page 2102). In 1927 he is described as a “tracer,” and is living at 366 South Bonnie Brae. (page 2068). In 1929 (page 2267) he is listed as living with his parents but his work is described as “gymnasium.” His father is described as an engineer in all three entries. All three city directories may be found at: <https://calisphere.org/collections/26096/>.

100. Letter from David P. Willoughby to Dr. Ales Hrdlicka, 17 September 1937, WC.

101. The 1922 contest was held at Madison Square Gardens. Randy Roach, *Muscle, Smoke and Mirrors: Volume 1* (Authorhouse Publishing, 2008): 78-81.

102. Quoted in Roach, *Muscle Smoke and Mirrors*, 78.

103. Tony Sansone, *Modern Classics* (New York: self-published, 1932); and Willoughby photo archive, WC.

104. Daniel Boorstin, *The Americans: The Democratic Experience* (New York: Random House, 1973), 165-187; Amanda Czerniawsk, “A 200-Year Weight Debate,” *Context* (American Sociological Society) 16, no. 3 (Summer 2017): 58-59; Roberta Park, “Muscles, Symmetry and Action: Do You Measure Up? Defining Masculinity in Britain and America from the 1860s to the early 1900s,” *International Journal of the History of Sport* 22, no. 3 (May 2005): 365-395; William Blaikie, *How to Get Strong and How to Stay So* (New York: Harper and Brothers, 1879); Pollack and Todd, “Before Charles Atlas,” 399-420. For Sargent’s system, see Kate Mazza, “The Biological Engineers: Health Creation and Promotion in the United States, 1880-1920,” (Ph.D. diss. The City University of New York, 2013).

105. Pollack and Todd, “Before Atlas,” 403.

106. David P. Willoughby, “What is the Perfect Physique?” *Physical Culture* 62, no. 3 (September 1929): 50-55, 100-101.

107. Willoughby, “What is the Perfect Physique?” 50.

108. Jan Todd, “The History of Cardinal Farnese’s ‘Weary Hercules,’” *Iron Game History: The Journal of Physical Culture* 9 (August 2005): 29-34.

109. Willoughby, “What is the Perfect Physique?” 53.

110. David P. Willoughby. “The Human Figure Ideal and Real,” *The Illustrator* 48, no. 1 (1962): 21.

111. Ibid.

112. Willoughby, “What is the Perfect Physique?” 55.

113. Ibid., 52.

114. Willoughby published ten articles in *Physical Culture* in 1930: “Powerful Arms for You,” 63, no. 1 (January 1930): 58-61; “Broad and Powerful Shoulders,” 63, no. 2 (February 1930): 70-73; “First of All a Good Strong Neck,” 63, no. 3 (March 1930): 68-71; “Build Up Your Chest—and Vitality,” 63, no. 4 (April 1930): 41-43; “You Are as Strong as Your Back,” 63, no. 5 (May 1930): 41-44; “The Short Road Back to Good Digestion—Waist-line Strength,” 63, no. 6 (June 1930): 41-43; “Your Waist Line Is Your Life Line,” 64 no. 1 (July 1930): 42-45; “And Now for Perfect Legs,” 64 no. 2 (August 1930): 54-57; “Do You Want Better Calves,” 64 no. 3 (September 1930): 41-43; and “Build a Body With No Weak Links,” 64, no. 5 (October 1930): 54-60.

115. John Grimek, “As I Remember Dave Willoughby,” *Muscular Development* (June 1983): 59.

116. Treloar also discussed being measured by Sargent, adding that he still had the chart Sargent had given him at Harvard. Letter from Al Treloar to David Willoughby, 15 September 1930, Treloar File, WC.

117. Letter from Al Treloar to David Willoughby, 15 September 1930, Treloar Correspondence File, WC.

118. “Dr. Engelbach Dies; Expert On Glands: His Four-Volume *Endocrine Medicine*, Issued This Year, Is a Standard on Subject,” *New York Times*, 21 November 1932.

119. David P. Willoughby, Typescript, “Outline of Proposed Study to Determine the Proportions and Characteristics of the Optimal Human Figure.” WC. The fact that Willoughby uses his Los Angeles address suggests this was written before the move to Santa Barbara. Eberle Kost Shelton, MD, (1888 – 1955) met Dr. William Engelbach in 1927 and assisted him with the publication of his four-volume *Endocrine Medicine* in 1932. He also had a private medical practice in Santa Barbara and later in Los Angeles. Viewed at: <https://www.endocrine.org/our-community/advancing-endocrinology-and-public-health/history/past-presidents>.

120. Willoughby also published “How Much Faster Can Sprinters Travel?” in the *Journal of Health and Physical Education* 2, no. 9 (November 1931): 34-47.

121. David P. Willoughby, “An Anthropometric Method for Arriving at the Optimal Proportions of the Body in Any Adult Individual,” *Research Quarterly* 3 (March 1932): 48-77.

122. Willoughby, “An Anthropometric Method,” 51.

123. David P. Willoughby, “About The Author,” in *What you Should Weigh and Measure: Your Personal Guide to a Normal Figure*, no date. Original manuscript, WC.

124. E. Kost Shelton, “Optimal Weight Estimation: The Method of Willoughby,” *Endocrinology* 16, no. 5 (September-October 1932): 492-505.

125. Shelton, “Optimal Weight Estimation: The Method of Willoughby,” 492.

126. Jane Stafford, “Why Your Ankles Tell What You Should Weigh,” *Ames Daily Tribune/Times*, 2 September 1932, 8; Jane Stafford, “Why Your Ankles Tell What You Should Weigh,” (Columbus, Indiana) *The Republic*, 2 September 1932, 7; (No author) “Your Ankles Tell What You Should Weigh,” (Olean, NY) *Times Herald*, 18 October 1932, 10; (No author) “Your Ankles Tell What You Should Weigh,” (Washington, DC) *Star*, 18 October 1932, 8.

127. “A New Way to Discover How Good Your Figure Is,” *San Antonio Light*, 2 April 1933, 7; “A New Way to Discover How Good Your Figure Is,” *San Francisco Examiner*, 2 April 1933, 73; “A New Way to Discover How Good Your Figure Is,” *Omaha Sunday Bee News*, 2 April 1933, 31.

128. “Now Comes a Beauty War to the Last Curve,” *El Paso Times*, 8 March 1936, 44; and John Chapman, “Mainly About Manhattan,” *New York Daily News*, 17 May 1940, B50.

129. William Engelbach, *Endocrine Medicine* (Baltimore, MD: C.C. Thomas Publishing, 1932), xi and 261 are pages that mention Willoughby. The book contains more than 900 illustrations.

130. Letter from David Willoughby to Dr. Ales Hrdlicka, 17 September 1937. Willoughby Correspondence File, WC. See also, “Autobiography,” handwritten yellow notebook, WC.

131. Photos taken at the Santa Barbara gym are generally outdoor

shots, as some training was done on the roof. They are dated from 1934-1936. Willoughby photography file, WC. Carol Willoughby claimed that Getty also took Dave out on his yacht which he docked in Santa Barbara. Handwritten note on envelope to Jan Todd, Willoughby Collection.

132. *Santa Barbara City Directory for 1936*, 390. Viewed at: <https://www.myheritage.com/research/record-10705-436886618/david-p-willoughby-in-us-city-directories>. According to Carol Willoughby, David even approached Getty about helping him start a magazine at this time, but Getty declined to provide the startup funds.

133. David P. Willoughby, *Arm Development*, (Santa Barbara, by the author, 1932); and *The Willoughby Method of Home Physical Training* (Santa Barbara, by the author, 1933).

134. Willoughby, *The Willoughby Method*, 3.

135. David P. Willoughby, *Building a Muscular Body* (Santa Barbara: by the author, 1935).

136. Willoughby, *Building a Muscular Body*, 26.

137. Letter from Adolph E. Nordquest to David P. Willoughby, 20 March 1934. Willoughby Correspondence File, WC.

138. Adjusting for inflation, \$15.00 is equal to \$291.58 in 2021 according to <https://www.dollartimes.com/inflation/inflation.php?amount=15&year=1935>. See: “Dear Friend,” promotional flyer dated November 1935 in “Publications and Training Course #4,” WC.

139. “Dear Friend,” 12 December 1935, flyer in folder B-4, F-024, WC.

140. The Index consisted of approximately 18,000 watercolor paintings depicting traditional American arts and crafts made before about 1890. The project began in 1935 and ended in 1939. <https://www.loc.gov/rr/program/bib/newdeal/fap.html>. For additional information see: Erwin Christensen, *The Index of American Design* (New York: Mac-Millan Company, 1950).

141. “Index of American Design,” National Gallery of Art, viewed at: https://www.nga.gov/exhibitions/1944/american_design.html. To see Willoughby’s paintings on-line, go to: <https://www.nga.gov/collection/artist-info.8213.html>.

142. Chester Stock <https://tarpits.org/early-excavations>.

143. Jeannette was a widow, and is listed in the 1930 census as the sister-in-law of Dr. Eberle Kost Shelton. Willoughby recorded meeting her at Dr. Engelbbach’s on 31 July 1929. in “Autobiography,” handwritten yellow notebook, WC. See: Jeannette Norine Murray at familysearch.org/tree/person/sources/271R-QB5. See also: *California, U.S., County Birth, Marriage, and Death Records, 1849-1980*, page 439; and *Santa Monica City Directory* for 1954, page 531. Jeannette died in February of 1966. Viewed at: ancestry.com/collections/3693/records/67906799.

144. 1940 US Federal Census Record for Jeannette N. Willoughby. Viewed at [Ancestry.com/discovery/ui-content/view/69099429:2442](https://ancestry.com/discovery/ui-content/view/69099429:2442). *Willoughby, David P(atrix) 1901*, Undated typescript in Willoughby biography file contains no mention of this marriage, or Jeannette, although his second wife, Carol, is listed.

145. Letter from Willoughby to Hrdlicka, 18 July 1937.

146. Letter from Hrdlicka to Willoughby, 8 September 1937.

147. Letter from Willoughby to Hrdlicka, 17 September 1937.

148. Letter from Hrdlicka to Willoughby, 21 September 1937.

149. Ibid.

150. David P. Willoughby, “Biographical Summary of the Investigator,” undated typescript (circa 1960), WC. See also: *Bulletin of the California Institute of Technology for 1950-1951*, 223.

151. Willoughby, “Biographical Summary.”

152. Ibid. See also “Certificate from US Government Office of Scientific Research and Development,” August 1945, Willoughby Biography File, WC.

153. David P. Willoughby, “An Extraordinary Case of Obesity and a Review of Some Lesser Cases,” *Human Biology* 14, no. 2 (May 1942): 166-177. See also: “Medicine: Fat Lady,” *Time* (2 November 1942): 21. See also, “Scientist Finds Tampa Fat Lady Was Fattest in Medical Records,” *Tampa Tribune*, 1 November 1942, 17.

154. David P. Willoughby, “The Gorilla—Largest Living Primate,” *Scientific Monthly* 70, no. 1 (January 1950): 48-57. William S. Barton, “Scientist Debunks Giant Gorilla Belief,” *The Los Angeles Times*, 2 January 1950, 25.

155. See, for example, David P. Willoughby, “Earthworm: At Home

Underground,” *Science Digest* 64 (November 1968): 71-74; David P. Willoughby, “Running and Jumping,” *Natural History* 83 (March 1974): 2-7; David P. Willoughby, “Animal Ages,” *Natural History* 78 (December 1969): 56-59; David P. Willoughby, “Science Reports: Quaggas,” *Natural History* 75 (February 1966): 60-63.

156. Willoughby received a three-year grant from the National Science Foundation to help support his work on the evolution of horses and zebras. “David Willoughby,” *The Illustrator* 46 (Summer 1960): 22.

157. David P. Willoughby, *The Empire of Equus* (New York: AS Barnes and Company, 1974); David P. Willoughby, *Growth and Nutrition in the Horse* (New York: AS Barnes and Company, 1975); David P. Willoughby, *All About Gorillas* (New York: AS Barnes and Company, 1977.) A manuscript on the evolution of mammoths and elephants was completed at the time of his death, but was never published.

158. “Cal Tech March 31, 1969,” typescript in Willoughby biography file with heavy handwritten annotation by Carol Willoughby. The co-authorship with Stock is mentioned in Willoughby, *Empire of Equus*, 17.

159. David P. Willoughby, *How to Take Your Measurements* (Montreal: Your Physique Publishing Company, 1944); David P. Willoughby and George R. Weaver, *The Complete Guide to Muscular Measurements* (Montreal: Your Physique Publishing Company, 1947); David P. Willoughby and George R. Weaver, *The Kings of Arm Strength*, no date; George R. Weaver and David P. Willoughby, *Developing a Mighty Chest* (Montreal: Your Physique Publishing Company, 1944); and David P. Willoughby and George R. Weaver, *Powerful Chest for You* (Montreal: Your Physique Publishing Company, 1944).

160. Willoughby’s first article was titled, “What They Measured,” *Your Physique*, (November/December 1943): 27-28. His “History of American Weightlifting” series began in March of 1949, and ran sequentially through December 1949. His articles on training different body parts appeared primarily between 1947 and 1950. See “Building a Powerful Forearm and Grip,” *Your Physique*, (November/December 1947): 8-9; and “The Abdominal and Side Muscles,” *Your Physique*, (November/December 1949): 16-17, as examples.

161. Weider talks about Macfadden as a role model in Joe and Ben Weider, *Brothers of Iron: Building the Weider Empire* (Los Angeles, Sports Publishing, 2006), 89-90.

162. Willoughby, “Biographical Summary of the Investigator.”

163. Editorial information is on page 3 of all issues of the magazine. The magazine ran as *Animal Life* on December 1953, May 1954, July 1954, October 1954, December 1954, February 1955, April 1955, June 1955 and August 1955. In October 1955 the magazine was renamed *Safari Combined With Animal Life*. In November of 1955, it became only *Safari* and Willoughby was no longer listed as part of the editorial team.

164. Letter from Ottley Coulter to David P. Willoughby, 1 September 1964.

165. Letter from Willoughby to Dave Simpson, 7 February 1976. Box 1, Folder 029, WC. Letter from David Willoughby to Terry Todd, 16 January 1979, Todd Correspondence Files, Collection of Jan and Terry Todd.

166. On the “Biographical Summary of the Investigator,” Willoughby claimed he was offered a position as “editor of a natural history magazine” that was financially unsuccessful.

167. “David Willoughby,” *Illustrator*, 22.

168. In a Letter to Ricardo Vicar Kelly, 25 Feb 1959, Willoughby claimed he generally put in about 56 hours a week during his time in the Jet Propulsion Lab; Box 1, Folder 016, WC.

169. Born Carol Harwood in Oakland, CA, David’s second wife had also been married previously, and had a son, David Kelley, who lived with David and Carol until he came of age. Carol’s father was involved with newspaper publishing in San Francisco. They married on 6 September 1946 in Pasadena. “D.P. Willoughby Takes Bride at Morning Rites,” *Metropolitan Pasadena Star-News*, 6 September 1946, 7.

170. The house was located at 820 Wilson Street in Laguna Beach.

171. Jack Chappell, “No Limits to His Knowledge,” *Daily Pilot*, 1976 newspaper clipping, Box 1.1, Folder 002, WC.

172. Cover, *Superman* (October 1938). Willoughby is shown bending a horse shoe on the cover.

173. David P. Willoughby, “Famous Strong-Men and Their Records,”

Superman (December 1938): 68.

174. Willoughby, “Famous Strong-Men” (December 1938): 68; and David P. Willoughby, “Famous Strong-Men and Their Records,” *Superman* (January 1939): 97.

175. David P. Willoughby, “Famous Strong-Men and Their Records: Sandow—The Nonpareil,” *Superman* (February, 1939): 120-122; David P. Willoughby, “Famous Strong-Men and Their Records: Louis Cyr: Mightiest of All Strongmen,” *Superman* (March, 1939): 150-152; David P. Willoughby, “Famous Strong-Men and Their Records,” *Superman* (May 1939): 208-210; David P. Willoughby, “Famous Strong-Men and Their Records,” *Superman* (June 1939): 226-228; David P. Willoughby, “Famous Strong-Men and Their Records: Warren Lincoln Travis—The Diamond Belt Champion,” *Superman* (July 1939): 264-266; David P. Willoughby, “Famous Strong-Men and Their Records: World Back Lift Champion,” *Superman* (August 1939): 293-294; David P. Willoughby, “Famous Strong-Men and Their Records,” *Superman* (September 1939): 320-322.

176. Willoughby’s “Strength Through the Ages” series appeared for the first time in *Strength & Health* on February 1961, on page 42. It ran through the February 1964 issue. His historical series in *Your Physique* consisted of six articles titled “History of American Weightlifting,” which ran from March to December 1949.

177. David P. Willoughby, “The Kings of Strength: A History of Strongmen from Earliest Times to the Present Day,” *Iron Man* 15, no. 4 (April-May 1956): 24-32. The last article in the series was David P. Willoughby, “The Kings of Strength: Early European Professional Strongmen,” *Iron Man* 22, no. 5 (May-June 1963): 32-34.

178. Willoughby, “The Kings of Strength,” (April-May 1956): 26. Edmond Desbonnet, *Les Rois de la Force* (Paris: Librairie Berger-Levrault 1911); Theodor Siebert, *Der Kraftsport* (Leipzig: Kade, 1911).

179. Ibid., 26-27. Willoughby also cited Al Treloar, Tromp Van Diggelen and George R. Weaver for their “helpful suggestions and encouragement through the years.”

180. David P. Willoughby, *The Super Athletes* (New York: AS Barnes, 1970).

181. Willoughby’s chapter on women’s sports is only 30 pages long, but given the fact that the book was published before the passage of Title IX in 1972, it is a remarkably rich source of information on early women weightlifters and other female athletes in sports such as roller skating, badminton, archery, gymnastics and track and field. Willoughby, *The Super Athletes*, 551-585.

182. Willoughby, *The Super Athletes*, back cover.

183. Braven Dyer, “Desert Dyer-Y,” *The (Palm Springs) Desert Sun*, 24 April 1971.

184. Heywood Hale Broun, “Record Collecting,” *Chicago Tribune*, 14 March 1971.

185. John Lucas, “Anomalies of Human Physical Achievement,” *Canadian Journal of the History of Sport and Physical Education* 8, no. 2 (December 1977): 1-9.

186. Letter from David P. Willoughby to Collister Wheeler, 9 June 1982. Box 1, Folder 037, WC.

187. Chappell, “No Limits to His Knowledge.”

188. Letter from Al Thomas to David P. Willoughby, December 1982. Willoughby Correspondence File, WC.

189. Ibid.

190. “Science Artist Dead at 82,” *Tides and Times*, newspaper clipping. Willoughby Biography File, WC. Willoughby was survived by his wife Carol, his step-son David Kelly and his daughter-in-law Ruth, three grandchildren, and one great grandchild.

191. Vic Boff, “In Tribute . . . David Willoughby: Weightlifter, Historian, and Anthropologist,” *Muscular Development* 20, no. 3 (June 1983): 30.

192. Typescript by David Webster, “David P. Willoughby. Obituary, 1st Draft,” Willoughby Biography File, WC. This was sent to Carol Willoughby by David Webster, WC.

193. Jan Todd presented a short paper on Willoughby’s life at the annual meeting of the North American Society for Sport History in 2006. Ryan Murtha presented “Dave Willoughby, Renaissance Man” at the 2019 annual meeting of the North American Society for Sport History, Boise, ID.