

An Interview with Ken Hutchins

Developer of the SuperSlow® Exercise Protocol

And President of

SuperSlow® Systems, INC, SuperSlow® Exercise Guild, INC, SuperSlow® Exercise Specialist, INC

By *Kam Hutchins*

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Kam: Why did you agree to do this interview?

Ken: Since the first of this year there have been over 100 articles in the press about *SuperSlow Exercise*. People sometimes ask me my feelings toward any one of them and my response is invariably: “It was good publicity.” I answer this way, because of the hundreds of times I have been interviewed over the last 10 years; I have yet to see an article that fully conveys the intentions of my statements. And I go to great lengths and care to ensure that the interviewer understands me. Although I believe that, in most cases, the writers were earnestly attempting to represent me properly, it is just that somewhere in the process, the factual picture is lost. I am hoping to set some of this straight. So if this interview leaves something to be desired then I have no one to blame but you and me.

Kam: Does any of this have to do with the *Aerobics* issue?

Ken: Of course. The media often states that I “...do not believe in *cardio*...” or something to that effect. Often, the implication—as this is taken out of context—is that I do not believe that exercise is important to cardiovascular health. This is a misrepresentation of my beliefs. More accurate is to state that I do not believe that so-called *cardiovascular exercise*—more accurately denoted *steady-state activity*—is an efficient way to improve cardiac health. I believe there is a much better way. And please underscore that this is not a “claim,” as I have been accused. It is a belief, an opinion, albeit no weaker than the belief of those who do not share mine. All they have are beliefs and opinions. The jury is still out on this issue, regardless of how we would like to believe that we know something solid.

Another rub with me is the standard statement I hear from media types to the effect that it is important to “balance” an article about *SuperSlow Exercise* with the opposing viewpoints. We have had 35-40 years of the one-sided *Aerobics* bias to a deafening, overbearing degree. It is about time that we balance the situation by not having to suffer the crass notions of the *Aerobics* persuasion. Some so-called experts have suggested that my disdain regarding *Aerobics* is indicative of poor judgment regarding my advice on exercise. I can prove just the opposite. Actually, I have done that already, but what I have to say later should put the lid on the *Aerobics* coffin.

I believe that it is only fair to add that, although exercise is extremely simple, its resolution in people’s minds is extremely complex. It would be nigh impossible for any magazine to cover all the bases of the prevailing confusion in one or two articles that could be instantly read and comprehended.

Kam: So, how did you come to this? Specifically, what is *SuperSlow Exercise* and how did it get started?

Ken: I began weight training as a 15-year-old aspiring trumpet player. Philip Alexander, one of the premiere symphonic oboe players in the world and an internal medicine specialist, built my first weight bench and encouraged me to increase my strength. A couple years later, I attended Philip’s wedding where he introduced me to a former high-school classmate, Ellington Darden. Ellington was then working on a PhD in physical education, and Philip was in medical school.

For several years, I embraced many of the errant exercise philosophies. I did explosive lifting—*weightlifting* as opposed to *weight training*—competing in power lifting and trying to compete in Olympic lifting. I ran or jogged as much as 17 miles a day during my stint in the Air Force where I worked as a

surgical technician. I, like many, permanently injured my back, knees, feet, shoulders, and neck doing these things.

Later, in 1977, Ellington invited me to join him as his technical writer at *Nautilus® Sports/Medical Industries*. *SuperSlow* emerged as a complete program from a five-year osteoporosis program that began in 1982 at the *University of Florida Medical School*, funded at a cost of \$3.5 Million by *Nautilus*. Brenda Hutchins and I were assigned by Arthur Jones to administer the exercise to frail, elderly women. After unsuccessfully trying to safely impose the standard *Nautilus® Protocol*—raising the weight in 2 seconds, lowering in 4 seconds—on these subjects, we were forced to reconsider a repetition speed suggested to us by a Vince Bocchicchio two years earlier.

Vince's idea was first believed by Vince, as well as by us, to apply only to single-joint rotary movements—like the leg extension or biceps curl—and deemed useless for the more-valuable compound movements—like a leg press or chest press. After working out the details of a *turnaround technique*, we developed an entire philosophy that included the protocol, more-refined equipment, and a special environment. It is important to acknowledge that most of the general exercise philosophy was still *Nautilus*-based (Arthur Jones) and remains so to this day. The environment required low-distraction furnishings with pale wall colors, no music, no plants, no socializing, dim lighting, continuous ventilation, low temperature, low humidity, and many other details. Also integral to the ideal environment was a strict clinical demeanor.

The breakthrough for this slow type of training was the development of that already-mentioned turnaround technique. Vince should get some of the credit for being one of the first within the early *Nautilus* camp to insist on such creepy slow movement; however, most of us at *Nautilus* were unaware then of the contributions from Bob Hoffman over 70 years ago and Ronnie Ray during the middle 1960s to the same suggestions.

Vince once corrected me on the phone about ten years ago, stating that he never really specified a particular speed of motion. He merely urged his clients to move as slowly as possible and still continue to move during the exercise. Several of his former associates from those years have shared much the same information. And as I suspected, Vince was ill equipped to extend his germ much beyond the primordial level. He admitted that he had told Arthur Jones that the cams and their resistance curves in the *Nautilus* equipment were acceptable for such slow speeds when we instantly realized that they were backwards. Also, *SuperSlow* would not truly show development as a program until it was considered by people with backgrounds in biology and medicine. Only then, did we develop the clinical demeanor and temperature controls that made it unique from the fitness community.

It is amazing to me that Hoffman sold weight training courses as early as 1927 detailing a ten-second positive with a ten-second negative—as well as urging the close study of the beginning inertial changes of each repetition. Thus, some of the present *SuperSlow Exercise Principles* were available as insights from Hoffman before the dawning of so-called exercise physiology with its attendant Aerobics-based treadmills, stair climbers, recumbent bicycles, etc. The result was that Hoffman's germs were obscured and shouted down by the burgeoning ignorance for all these decades. And, of course, it has taken us within the *SuperSlow* community many years to rediscover them as well as many years to realize that we were not completely first.

On *SuperSlow*, the subjects at the Osteoporosis Study obtained such incredible improvements that we concluded that we should train this way ourselves. Back then, we were still training three days per week for about 30 minutes per workout.

One woman was permitted by the exercise physiologists to fudge the entrance test. Instead of failing her—because she could not walk on a treadmill long enough to obtain an EKG strip—she was allowed to practice for several weeks to gain the necessary balance to pass the test. Realize that she required a cane-chair to shop for groceries and could not travel by herself. At the outset, she was barely able to stand for more than a couple minutes. After doing *SuperSlow* for 8 months, this 69-year-old was going to Europe on trips alone and unassisted.

Another lady, who loved to knit, but could not because of arthritis, regained her ability. Also, after *SuperSlow Exercise* for 18 months, she came in to report some rather startling news. She had grown accustomed for several years to vacuuming her house every Sunday using a particular procedure. Because she lacked the endurance to vacuum the entire house in one session, she invariably vacuumed the upstairs, and then took a two-hour break for tea and reading the newspaper. Afterwards, she would vacuum the downstairs. Then one Sunday morning, as she sat at the kitchen table reading the paper, it suddenly dawned on her that she had mindlessly vacuumed the entire house nonstop.

Now as remarkable as these three stories are, the more important detail was yet to come. Of all the before-and-after tests the exercise physiologists did on these women for two years—Maximum Oxygen Consumption, Flexibility, Body Fat, Endurance Testing, and others—they showed NO IMPROVEMENT! So what does this tell you about all those silly tests they make you take at the local wellness center?

The university people tried to make us abort the *SuperSlow Exercise Protocol* because it was too strange. In fact, we often had to assign one of our instructors as a sentry to guard the thermostat controls during workouts to prevent the exercise physiologists from screwing up the study on account that they—the exercise physiologists—were uncomfortably cold. It was our job to make sure the exercise was controlled and that those who did not understand exercise were not allowed to interfere. Although I already appreciated the lack of science among many exercise physiologists, this experience brought my awareness to an extreme acuity.

By the way, administering the exercise controls was our only role in this study. We were not part of the data collection or any other aspect of the study. Later, in typical fashion, the researchers published at least one study showing favorable results of the program. I tried to distance myself from this, because, after 5-6 years, there really was nothing to conclude. The data was worthless. The bone density measuring devices were known to be of poor resolution.

Although I tried to convince Arthur Jones of its superiority, he showed no interest in *SuperSlow* and has ridiculed me for it since. I owe most of my understanding of exercise to Arthur. Arthur's ideas were essential to bringing us out of the dark ages of exercise. Most of those making a livelihood in the exercise market today, even those with competing philosophies, owe Arthur their jobs. Without him, *SuperSlow* would never have occurred. I find it strange, however, that this being true; Arthur is unable to take the next intellectual leap. He is an absolute genius who made Step One happen, but he can't do Step Two. It baffles me.

Nevertheless, I sincerely believe that it would be proper for every man, woman, and child in Western Society who exercises or has exercised to mail Arthur Jones in Anthony, Florida, one dollar as a token of appreciation with a short note to this effect. His contributions have been so deserving.

From the Osteoporosis Study we went back to Nautilus. Arthur soon sold Nautilus, and I worked for the new regime for almost two years. They believed that they had merely purchased a successful trademark—*Nautilus*—and had no use for the exercise philosophy. It actually frightened them, because they wanted to avoid the controversy that Arthur had intentionally fostered. As a result, they directed me and others to tone down the philosophy. I left.

Trying to grow a business based on *SuperSlow Exercise* has been a long journey since I left Nautilus in 1988. The few gym owners that would embrace it, could not offer the controlled environment or specialized equipment. It had to be grown alongside the circus environment of the conventional fitness model. This was extremely discouraging and frustrating. Worse in some ways was the larger battle I had to fight for people's minds. They were inundated with the typical fitness nonsense. It was me against their friends, family, Ken Cooper, Jane Fonda, Kathy Smith, Covert Bailey, *the American College of Sports Medicine*, *the American Council on Exercise*, *the President's Council on Physical Fitness*, the newspapers, television, celebrities, the personal trainer down the street, and, often their doctor. I was very outnumbered. I felt as though I was being yelled down by mob rule. It is a miracle that we ever got off the ground and a mystery to me that we have survived 13 years.

Kam: I guess your recent publicity and success, in retrospect, seems unlikely.

Ken: There is a paradox here. I have been criticized of late by a few shortsighted souls who think I am in this just for the money. As a matter of fact, “just” and “money” never go in the same sentence. Most beneficial ideas fail because of business. The wise know and accept that if an idea cannot make money, it will merely fade away.

I have struggled on a subsistence salary for 13 years. I am proud of that. I am still not making a profit, because I am still growing this new industry, which very soon will supplant the fitness industry, as we know it.

However, I should also state that there are now many around me who are carting money to the bank every week by the buckets. They have found the means to administer *SuperSlow* to intelligent people who see its value and who are willing to pay for its benefits. There are others who are stealing or trying to steal the trademark or claim origination with the program. They often do this by changing one minute detail—like the color of the walls in the gym. I also find myself in the unusual position of being ridiculed or ignored for my ideas by those in the fitness industry while the fitness industry at large is trying to make *SuperSlow* generic. As soon as the media blitz hit earlier this year, magazine editors and convention managers who felt left out of the loop, rushed to print articles to promote the false image that they, too, were insiders of the new wave. This is a mark of our success, I guess.

Also, I see personal trainers who have done little with their life other than talk training jargon and hang out in the gym. Intellectually and emotionally they have a need to make something their own. Sometimes they latch onto *SuperSlow* and embrace it so strongly that they convince themselves that they invented it. Such is the occasional weakness of the human psyche. Many of these instructors have never read the *SuperSlow Technical Manual*, much less gone through the *SuperSlow Certification Program*.

Kam: When you say *SuperSlow Exercise*, what do you mean?

Ken: In a nutshell, *SuperSlow* is raising the weight in 10 seconds and lowering the weight in 10 seconds. There are minor exceptions to this, but this is the basic plan. If you perform an arm bending movement and time yourself you will see that this is creepy slow.

Others in the exercise arena have emphasized slow movement before. Arthur Jones is perhaps the most well known voice in this area, but *SuperSlow* represents the first time anyone actually stated what is meant by “slow.” We said “Super” because we suddenly realized at the *Osteoporosis Study* that what we had been promoting as “slow” in Nautilus verbiage, was not truly slow; therefore, out of embarrassment, we said “SuperSlow.”

I am original with the concept in several ways. First, I defined exactly what I meant by “slow”: ten seconds positive, ten seconds negative. Others, like Vince and Arthur, had emphasized the word, “*slow*” for years but without specifying what they meant by the relative term.

Others I know of and perhaps many more I do not, used extremely slow repetitions on occasion. Ronnie Ray of Dallas, Texas, used 12-second positives preparing for powerlifting competitions. I have heard that Bob Hoffman wrote articles extolling the virtues of extremely slow speeds over 40 years ago. Who knows for sure what Zander was recommending 100 years ago? I certainly did not coin the word, *slow*.

I was also original in the development of the environmental controls as well as the *Exercise vs. Recreation principles* to exclude other activities as exercise, something Ellington Darden has remarked as possibly more important than the specific *SuperSlow Protocol*.

For more on this please read, *What is SuperSlow?* This article is elsewhere on this website.

Kam: Why so slow?

Ken: Three reasons:

- Since safety is primarily affected by force, and force by acceleration, and acceleration by the suddenness of starting, stopping, or changing the direction of movement, *slow* indicates *careful*.
- Since momentum mounts with increased speed, and since momentum unloads the muscles we are trying to load for exercise, *slow* indicates better loading and hence exercise.
- Since close study and concentration of muscular contraction is averted with faster movement, then someone serious about a deep and meaningful effect will move very slowly.

Kam: Are there studies to support that *SuperSlow Exercise* is a superior way to train?

Ken: Yes and no. For now, there are no formally published studies that I respect showing either positive or negative results from *SuperSlow*. There are published programs by Ellington Darden and others who have witnessed the same startling improvements from this mode of training, but I do not know if we can rely on the exercise physiologist to give us any answers to this. Wayne Westcott has obtained a lot of press for his favorable reports on *SuperSlow*, but I do not like to reference exercise physiologists that I do not respect, even when they say good things about *SuperSlow*.

However, we have many favorable reports coming from the medical community. Gary Lindahl, a physical therapist in Fremont, California, is applying *SuperSlow* to a wide variety of rehabilitation cases with startling success. He has seen major improvements with Parkinson's, spinal fusions, lymphodema, and a host of other applications. Using *SuperSlow* for 97% of his physical therapy in the past two years, Gary has seen no injuries. This is from 375 evaluations and 7800 sessions. The physicians like it and its results so much that *SuperSlow* is often written on their prescriptions. The patients are clamoring for more personal training time with Gary after completing their therapy. And the therapist no longer feels trapped in a managed care system that thwarts the professional and the patients' choices and outcomes. Other physical therapists are anxious to learn the techniques.

Phil Hoehn has seen much the same response to *SuperSlow*. In addition to his general practice, Phil specializes in applying *SuperSlow* to pelvic floor dysfunctions such as urinary incontinence, sexual dysfunction and related problems. He has recently produced a female patient that showed a 24% increase in bone density after 6 months of *SuperSlow Exercise*.

Another physical therapist using *SuperSlow* is Lesley Gragg in Chicago. She routinely witnesses back conditions melt away almost instantly with *SuperSlow* used on special *MedX*[®] spine equipment.

Also, Philip Blount, MD—a physical medicine specialist from Charlotte, North Carolina—is researching outcomes with back conditions using *SuperSlow*. He has also exposed as a hoax the back protective belts that are often seen used in warehouse employees. I suggest that this is just more nonsense dollars we pay because of worthless exercise physiology studies taken seriously by industry.

Now realize that the back belt issue is a ruse within a ruse. You have deception, inadvertent or deliberate, at the corporate level by the phony support research. And there is another deception at the employee level. The ignorant employee, completely browbeaten into compliance to wear the belt with its attending lip service and mystique by the company's managers, assumes that any back injury must be from an off-the-job event in his personal life, since off-the-job he wasn't wearing his belt. Right? Although the belt not only fails to prevent, but can be argued to cause back injuries, it still saves the insurance company and thus the employer, because the employee holds them blameless.

Steve Operstony, MD—a physical medicine specialist from College Station, Texas, knows what *SuperSlow* can do for his patients. He has written several chapters on *SuperSlow* in major rehabilitation textbooks.

Dr. Roger Mousabek, MD, is an emergency room specialist who runs a spinal rehab center in Palm Springs, using *SuperSlow Exercise*. So, the word is out.

Kam: Why do you often shun exercise physiologists?

Ken: Exercise physiologists are desperate to have us believe that they are scientists. They are not. They are neither experts on exercise nor are they physiologists. They are glorified coaches. Nothing more. Many got their undergraduate diplomas stating, "Exercise Science" from a curriculum devoid of prerequisites for math, foreign language, chemistry, biology, or physics. What courses they did get in these subjects were courses watered down for the jocks. It is also important to note that although many entered the curriculum because they enjoyed the subject, many did it for another, more powerful reason: They disliked science and could not master its rigors! And now they want the rest of us to take them as *scientists*?

I believe that some of the academic disparities are now improving, but I am not convinced that they will have much of an effect on the general field of exercise physiology, at least not for many years. Just because you dress a bunch of derelicts in the trappings of sophistication and teach them to parrot arcane language, does not mean you have scientists.

Kam: But are not we all scientists to an extent?

Ken: Of course we are. However, it is sometimes easy to go overboard with that label. Here is a passage I like to use to answer some of my detractors:

Interests were abundant; for we were children, and ignorant; ignorant beyond the conception of the present day. We knew nothing--nothing whatever. We were starting at the very bottom of things--at the very beginning, we had to learn the a b c of things. Today the child of four years knows things which we were still ignorant of at thirty. For we were children without nurses and without instructors. There was no one to tell us anything. There was no dictionary, and we could not know whether we used our words correctly or not; we liked large ones, and I know now that we often employed them for their sound and dignity, while quite ignorant of their meaning; and as to our spelling, it was profligate. But we cared not a straw for these trifles; so that we accumulated a large and showy vocabulary, we cared nothing for the means and the methods.

But studying, learning, inquiring into the cause and nature and purpose of everything we came across, were passions with us, and this research filled our days with brilliant and absorbing interest. Adam was by constitution and proclivity a scientist; I may justly say I was the same, and we loved to call ourselves by that great name.

excerpted from *Eve's Diary* by Mark Twain

Doug McGuff, MD, read this and stated: "Gee, I did not know there were exercise physiologists back then." Of course, this passage applies to all of us to some extent.

Kam: To you, what constitutes a proper science?

Ken: I believe that to have a science, three basic ingredients are required and of which exercise physiologists are lacking. These missing ingredients are:

- A working definition of exercise.
- Adequately accurate measuring tools with a known and published repeatable error.

- Research studies performed with said definition and said measuring tools on sample populations large enough to be statistically significant.

I detail the dearth of these components in articles elsewhere on our website.

Kam: Where is your science?

Ken: I, like the exercise physiologists, don't have any. But first allow me to explain. If we consider science as an action of mastering and referencing the classical knowledge to apply to an innovation, I have it and they don't have it. In other words, the exercise physiologists are out of step with basic biology, physics and chemistry as a foundation for their arguments. It is possible to read popular exercise physiology textbooks and see numerous, although authoritatively stated, examples of principles that are taken out of context, misstated and merely made up for the convenience of their arguments. Almost any MD would see these with a cursory read. Dr. Doug McGuff is very talented at exposing these inconsistencies.

For instance, a recent paper was published disputing my assertions (stated as "claims") that *SuperSlow* was more "aerobic" than traditional "aerobics." This assertion requires detailed semantical elaboration to make any sense. The researchers conveniently skipped over the elaboration, failing to define their terms and set out to disprove me by use of an Oxygen Uptake Test. I have shown and documented from many various sources, including exercise physiologists, that this test is worthless. They use it anyway. Figuratively, they insist on looking for microbes with a flashlight and then making a formal report of their findings. Exercise physiologists have a long and consistent history with this type of behavior.

Now if, when you say "science," does Ken Hutchins have published studies? By the requirements of a science that I earlier stated, the answer is "No." However, things are beginning to change. Philip Alexander, MD, is collecting data from patients doing *SuperSlow* who are showing a doubling of their HDL, a marked lowering of their blood glucose (in those who are diabetic), and a bone density increase of 1% per month. These improvements have never been seen before with exercise or with any kind of medical treatment or pharmacological agent. And this information regarding HDL comes in very timely with respect to the danger slams being made recently against the statin drugs.

Kam: What has been the effect of Dr. Alexander's findings?

Ken: So far, the response has been mixed. In my opinion, information like this should be shouted from the mountaintops. However most of the media interviews have omitted it from their stories. Apparently, they work with a fixed space allotment for a story and once they fill it with the surface information, that's it. They wrap it up right there.

Apparently, this new information is threatening to Ken Cooper, because for the first time, we drew his fire in a recent article where as before, his only response had been "no comment" to *SuperSlow* related interviews. And simultaneously, the exercise physiology department at *Texas A&M* is busy trying to duplicate the findings in order—I suspect—to save face for their profession. In other words, they are embarrassed that someone outside their ranks is going to be credited with the find of the century. I expect them to either bungle the study with all their mismatch of competing exercise philosophies and poor data collection and management techniques OR go into print with assertions from faked research. Most research in exercise is faked.

Doug McGuff, MD, once visited the exercise physiology department at *the University of Florida* in Gainesville where the MedX research was performed. Here, he expected to see some proper research on exercise being performed at the so-called *Mecca of Exercise*. He was disgusted to find the usual scene that I know: Elderly research subjects going through their exercise routine on the MedX equipment unsupervised while the exercise physiologist was reading a book at his desk. This is exactly why Arthur Jones sent his people to the *Osteoporosis Project* in 1982. He suspected that this would be their idea of *properly supervised research*.

Almost any exercise physiology student or graduate can testify to this: The typical research is performed on a group of college students. Ignoring the fact that the foundational science is poor, the testing tools are worthless and the statistical standards are missing; the procedure is sloppy. Assuming the procedure actually occurred, the students are gathered for an exercise class, usually for academic credit. The researcher assigns one of his graduate students—a TA or teaching assistant—to explain the exercises to be performed on the first meeting of the class. After that, the students are permitted to train themselves or each other. The overseeing graduate student might show up occasionally to check attendance and to make sure that the workout charts are properly completed. After the course is finished, the students receive an automatic A for a grade, and the TA collects the charts. His boss takes the charts and cranks out another worthless research paper to be published with the *American College of Sports Medicine*.

Kam: I hear a lot of criticism of you from the exercise physiologists.

Ken: I know. I like it. It tells me that I have finally hit their nerve, and that I have been successful. I have found their hot button, and I am going to keep pushing it until it shorts out.

Kam: Why would you want to do that? Wouldn't it be better to get them on your side—you know—the ol' adage, "You can draw more flies with honey than with vinegar"?

Ken: Well, that might be a great idea, Kam, if your intention is to draw flies. But for the life of me, I can't understand why I should want to impress the exercise physiologists. Exercise physiologists are the dregs of the academic community. They represent an element of our society that I want nothing to do with.

I now have them on the defensive. They lash back at me out of fear of losing their careers. It reminds me of the line by the governor in Mel Brooks' *Blazing Saddles*: "Gentlemen, gentlemen, we've got to save our phony baloney jobs."

Kam: I have friends whose children have gone to college to obtain exercise physiology degrees. Do you consider this a poor choice?

Ken: Absolutely. Degreed exercise physiologists are a dime a dozen. I hear that they are now being laid off in large numbers by the managed health care systems because they serve no directly useful purpose. For instance, the CFOs wanting to cut the deadwood will ask, "How much do the exercise physiologists cost us? What do they do? Do we need what they do?" When it's learned that the *phys* people merely hang out in the gym each day and gossip with a few of the patients, and then sit in their office most of the time, the CFO axes them.

Have you ever noticed how many college and professional athletes have exercise physiology degrees?—Almost all of them. Do you know why?

Kam: I am beginning to suspect something here. Is exercise physiology a ruse for the athletes to avoid academic scrutiny?

Ken: I can't prove this, but this is what I believe: The athletes and coaches are not well informed about physiology, but they have been clever at avoiding the eye of those who might report them for the jocks getting unearned passing grades to win ball games. This is a horrible disservice to the kids who are snookered into thinking they will have an education, a diploma, and a career after four years.

Kam: Is it all that simple?

Ken: Only on the surface. Beneath it lurks an unquestioned attitude that the athletes are expendable. I know that there are now groups who have pending class action suits against the universities for their failure to pay their athletes like professionals. And I am guessing that they have not played the angle of academic fraud for the universities giving the students a degree equivalent to basket weaving and tiddleywinks.

Don't take my word for it. Make the observations yourself. Can you really accept that the typical professional basketball player can barely put a sentence together although he has a diploma for *exercise physiology*? This is outrageous. And should not we be guilty for the much larger number of athletes who did not make the cuts over the years due to maiming injuries? Who pays for their loss of quality of life? What career can they get with that worthless degree? I believe that this is national scandal and that it deserves investigation by fair-minded authorities that will not merely look the other way or couch the outcome and frame the issues to protect the coaches. We are all at blame for allowing this. Anyone who enjoys a professional sports event is party to the problem.

During my career at Nautilus, we sometimes discussed the coaching abuses like plyometrics, water deprivation, and overtraining as punishment. I once heard someone sum up this abuse with, "Athletes—after all they are merely human test cars."

Over the years, Arthur Jones has repeatedly boasted that he would advance coaching 50 years by stuffing 300 coaches into a 747 and flying them into Pikes Peak.

Kam: But what about the need for society to enjoy sports?

Ken: Sure. Our society, as a whole, would suffer without sports. Without the pastime of sports, a large element of our society would be deprived an effective babysitter, and widespread anarchy might result due to idleness. Any government realizes that idleness is dangerous to stability. James Michener discussed this in his book, *Sports in America*.

But academic standards are important too. Perhaps we might admit that we are doing well to sequester weak minds in the coaching community and give them lofty titles as "exercise physiologist," but the stockade is busted if these exercise physiologists are appointed to positions where they spend tax dollars to put treadmills on space shuttles. Remember the quote from Shakespeare's *Romeo and Juliet*: "A rose by any other name would smell so sweet." I say, "A jock by any other name is just as illiterate."

Of course, there are exceptions to these, perhaps many exceptions. Intelligent, well-educated coaches do exist. In fact, some of these coaches are desperately striving to improve their practice with the application of *SuperSlow Exercise Philosophy*. This sapient contingent is sorely outnumbered and outranked at present.

And if an exercise physiologist reads my criticisms of their academic shortcomings and gets angry with me, he or she should remember that I am not at fault here. It is not my fault that they read the wrong books and listened to the wrong professors in college. I did not make these choices for them.

Kam: The contrary to that Shakespeare quote is the quote from Oscar Wilde: "One who calls a spade a spade should be forced to use one." Are you not afraid of backlash from your frontal assault against the opposition?

Ken: I choose to do what I believe is right, and then let the chips fall where they will. A situation like this will not improve by me ignoring it. I believe that my suspicions have foundation, and that the truth will come out as a result of audits and investigations prompted by my writings. Besides, these hunches are not without precedence. And if my statements about this are interpreted as embitterment or defensiveness, then so be it. At least I am not afraid to express it.

Kam: Now that you have struggled and suffered, don't you think it is unwise to now waste it all to antagonize the exercise physiology community, a faction with more influence to make *SuperSlow* more popular?

Ken: It is natural to want to acquire an improved position in life and to want to protect this newfound status with a more ingratiating posture. This is usually considered a wise approach for someone entering his senior years. But what drives me is a philosophy of life that is mine alone, and that I do not wish to try to explain. For now, this is what interests me. I will follow the present path until I lose interest or until I die. I expect to be dead within 20 years, and I have more work to do than I can possibly finish in that time.

Although I may be distracted by some other interest, I refuse to be distracted by fear. I do not view this moment as my chance to reap the rewards of fame and fortune. Instead, this is the opportunity for all of us to use this publicity to expose the inequities.

Kam: Are you the lone wolf in attacking the exercise physiology community?

Ken: No. Not by any means. Arthur Jones should be highly credited for his statements against them. The exercise physiologists have picked at his minor mistakes and missed his much larger truths about exercise. It has been apparent to me that for all their pretense at wanting to learn and their hoopla that education is a wonderful vista, the vanguard of the exercise physiology community is staunchly dogmatic and not really interested in learning. Their ignorance is matched only by their arrogance.

In 1939, Dr. Seward Staley wrote a book in which he suggests that there was no such thing as *physical education*. He stated that what was going forth in the school curriculums was more-correctly termed *sports education*, and thus were born words such as *wellness* and *sportsmedicine*. He also reported that the athletic departments in the major universities had recognized that their information was decades antiquated to that being taught in the biology departments. They invented *physical education*, because they no longer felt that they had anything to teach (sell). This book is now over 60 years old, but its truths are not outdated.

Kam: What is *sportsmedicine*? How is it different from *exercise physiology*? Is it a subset of medicine or a branch of exercise physiology?

Ken: *Sportsmedicine* is neither a proper specialty in medicine nor any science-based physiology embracing exercise. *Sportsmedicine* is an orthopedic marketing term. It is used to suggest that the orthopedic surgeon or group is entrusted to care for the injuries of high-profile athletes. This further suggests that the surgeon or group is more advanced, progressive and skilled than the ordinary orthopedist. After all, don't the athletes get better medical care than the average Joe? Don't they enjoy an entourage of servants—trainers, coaches, doctors—to ensure the best, modern procedures and treatments?—Wrong!!!

In my mind, *sportsmedicine* is *jockmedicine*. This term epitomizes that athletes are rushed in their healing time to make the winning season, that they are deliberately given health-threatening drugs to enhance performance and mask the pain of their compromising injuries, and treated with physical therapy programs that are archaic, abusive and inane. Meanwhile, these practices are promoted as “cutting edge.”

Kam: You sure know how to create offending words. I am sure that some doctors will not like your use of *jockmedicine*.

Ken: Serves them right, and especially if the shoe fits, they should wear it. They ought to be ashamed of themselves for making themselves such easy targets. I really like the word, *jockmedicine*. For me, it says it all. It's perfect. And like I have mentioned before, when I find I can strike a nerve, I keep it irritated. That it bothers someone tells me that his defensiveness is there for a reason. He has a shortcoming and now it's exposed. That is what really bothers him. Someone has found him out.

Kam: How do you feel about the criticism I might make that your criticisms are too broad and too generalized?

Ken: Well, as one philosopher, Bagehot, stated, “To illustrate a principle, you must exaggerate much and you must omit much.” There are exceptions to my accusations, especially individualistically speaking. There are many sincere and well-intentioned people in the ranks of exercise physiology and sportsmedicine. Many of them are merely misinformed or in positions where they are coerced to practice against their beliefs. Many would change their approach and philosophy if put into the right environment to learn and practice. In fact, I receive letters from several in these ranks weekly who are discontent with the standard of their vocation and desire reform. I know of some who are jeopardizing their jobs by trying to establish real standards.

Kam: Where does the medical community play into this? Our father was a medical doctor who had little respect for notions of exercise, and now we see doctors speaking freely about the subject. How does all of this fit together?

Ken: The medical community at large, like our father, was reluctant to say much about exercise until about 15 years ago. I feel that the primary care physicians were pressured into giving exercise lip service because of popular demand. And they seemed more comfortable to do so with Kenneth Cooper's involvement as a medical doctor. Also, the orthopedic community focused more on athletes to raise their profile. Some of this is good and some bad. We must admit that doctors are people too, and that they also have the emotional need to believe that exercise might offer them an out for some of their personal ailments.

The proverbial tail has been wagging the dog for almost two decades now. Doctors have not taken an active interest in exercise. They have been passive to the extent that they have merely taken at face value what the exercise physiologists have fed them. On one hand, the doctors should be chided for letting the nonsense prevail and for being too lazy to check their sources. On the other hand, the doctors have been snookered. How was the typical doctor like our dad to know any better? He never knew that the exercise physiologist in his copy of *Physician and Sportsmedicine* was the same mentality and education as the high school coach he did not respect.

And many doctors today do not realize that the exercise physiologists who spoke last Tuesday—May 29, 2001—on Capital Hill and who were voicing their supposed concern over *sedentary death syndrome*, were merely performing a publicity stunt based on extreme ignorance regarding the nature of obesity. Obesity has only one major cause—eating too much. And although there are other varied issues surrounding overfatness, they all boil down to gluttony. The exercise physiologists would have you believe that activity and exercise is a major deterrent to obesity. It may be a deterrent to gluttony, but the gluttony has to stop before anything else is significantly helpful.

One pound of human bodyfat has enough energy for the average man to run 35 miles. This is 8-10 hours of running for the average man or woman and represents a caloric burn that can be replaced in less than five minutes of eating. There is no way that activity can compete with the mouth when the food supply is in infinite availability. Besides, the exercise physiology people would like you to play at sports, which sports are going to eventually get you hurt, laid up, immobilized, depressed, hungry and fatter.

I find it amusing that President Bush is rumored to be considering Kenneth Cooper for his Surgeon General. Supposedly, fitness and personal training are to get a big boost from the Bush Administration. Of course, fitness is a sacred cow and a political football at the same time. Promoting fitness makes the conservatives sound progressive and softens their image favorably, even though they are unknowingly supporting liberal science and academics. Although some of my supporters are outraged that Cooper might get the post, I see that it might make him an easier target for me. Who knows what will really happen.

As an aside, I'd like to see us rid ourselves of this meaningless word, *sports*. We see it too commonly. I just bought a medium-sized covered trailer to deliver exercise equipment. On the side panel is embossed the words *Cargo Sport*. How inane! What the hell is this supposed to imply? And on a utility trailer? And then you have *sports drink* and *sports bike* and *sports restaurant* and *sports this* and *that*. Since when does a bare bones Ford Escort deserve a "*sports package*?" Does this mean that it merely comes with an extra stripe of paint likened to a racing stripe? Or do you pay extra, because it is devoid of an air conditioner? *Sports* is a term not too far removed from the quintessential cave man saying "ugh." It has no definition and thus no meaning whatsoever. I can't wait to get my *sports tractor*, my *sports lathe* and my *sports locomotive*.

Back on topic, things are about to change drastically. Although the medical community is largely misinformed about exercise, the medical doctors represent the one group that does possess the basic science to discern the truth. As more is unraveled in this interview as well in other sources, and the doctors become aware of this, I believe that they will take the bull by the horns, so to speak, and the exercise physiologists will be bowing to new masters.

Kam: So you believe that exercise physiology will experience a correction due to SuperSlow enlightenment, so to speak?

Ken: No. I did not intend to imply that. I hope that exercise physiology is exposed, but I do not hold out much hope that it can transform from pseudoscience to science. I am afraid that that is about as likely as mixing a drop of distilled water into the ocean and hoping for the rest of the ocean to clean up. Let me provide an example:

In March of this year we hosted our convention. The venue was College Station, Texas. The directors of the convention wanted to extend the olive branch to the exercise physiology department at A&M University. Their graduates were not finding employment. We believed that we could foster careers by involving them in *SuperSlow* facilities in the area and work together to mutual benefit. Also, the convention was to be multidiscipline: involving the dieticians, home care, physical therapy, and others.

When the convention directors asked the exercise physiology department to sponsor the campus theater as the Saturday site, the first response was a prerequisite demand that we provide curriculum vitae of all the speakers to ensure them that “real science was being presented” (paraphrased). Although this outrageous snobbery seemed a mere formality, we were shocked after the CVs were submitted that we were flatly rejected on the basis that Dr. Doug McGuff (they repeatedly misspelled his name, *McDuff*) held no credentials to be speaking on matters of exercise. Now realize that McGuff was to be in the audience on Saturday. His speech was to occur off campus in a private auditorium the evening before, as were all the hard-core *SuperSlow* presentations. Also, the University was on spring break, the campus was a virtual ghost town.

The particularly galling part of this outrageous academic bigotry was that the rejection letter paid revered acknowledgement to Jack Wilmore, PhD. And just who is Jack Wilmore? Wilmore is a past president of the *American College of Sports Medicine* who has been somehow chosen by Texas A&M to head a multi-million-dollar human performance lab in conjunction with the exercise physiology department.

According to Arthur Jones, Wilmore is guilty of the greatest fraud in the history of exercise physiology. Jones states that in the early 70s Jack Wilmore and Tom Pipes performed a study on isokinetic exercise that was completely faked. Jones claims to have audiotapes of Pipes divulging the entire story. Jones also tells that Wilmore was forced to write a letter of apology to the *American College of Sports Medicine* regarding the matter. In a videotaped presentation to approximately 250 visitors at a Nautilus Seminar in *circa* 1983 Arthur documented the following:

Recently they have begun to notice this [inconsistency in negative work], so now they [the exercise physiologists] are trying to change physical law to suit themselves.

One of the most famous studies published, and still being handed out in the medical community, or the scientific community, if you can call it that, is a study “proving” *the superiority of isokinetic exercise*. Now the study was conducted, the research was conducted, and the paper was published by Jack Wilmore, former president of the *American College of Sports Medicine* and Tom Pipes—or was it? That’s the names on it. But Wilmore has since bailed out claiming that, in fact, he had nothing to do with it, didn’t know anything about it, which is interesting, since Pipes bailed out two years earlier claiming that he wasn’t there, and that he didn’t know anything about it. Did you conduct the study? I damn sure didn’t. Wilmore didn’t. Pipes didn’t. Who the hell did? Nobody.

Well when the thing was published I published articles ridiculing it and pointing out that 2 plus 2 are not 19 no matter what somebody says. Nine years later, somebody else began to suspect “Gee, maybe there is a little fraud here.” So they wrote Wilmore demanding the data which was not forthcoming. Then they got a little pushy and eventually some obviously hastily cobbled together figures were sent to him to hush him up, but unfortunately, he could do things like third-grade grammar school arithmetic, you know, and he examined these figures, and what did they have to do with the original study? Not a damn thing. So he blew the whistle on them. They faked it. They

didn't even do the study. It's still being handed out. It'll probably be handed out twenty years from now. A whole industry is based on it. That's par for the course.

Assuming this report by Jones is true, several possibilities come to mind. First is that the *American College of Sports Medicine* was embarrassed that one of its former presidents got caught doing a deed that compromised their entire enterprise. So was it not in the interest of the *ACSM* to kick Wilmore out and banish him from their ranks, thus preventing him from ever doing more research? Sounds like we have a case of the fox guarding the hen house when it comes to the *ACSM* refereeing its ranks. I can only assume that the formal apology letter to which Arthur refers is a token slap on the wrist that the *ACSM* can hold up to show that it punished Wilmore. Of course, I do not know the powers of the *ACSM*. So what of the universities' punitive powers?

Second, I am told that the College Station community is proud and supportive of the new human performance lab to be run by Wilmore. How would the community react to learn that the lab and its research are the lion's den of the most widespread medical and science fraud in recent history. It is important to realize that the Pipes/Wilmore paper is one of three major cornerstones to the *isokinetics* rehabilitation philosophy and equipment. Of the other two supporting studies, one had conclusions in direct conflict with its published data, and the other was privately recanted by the author. *Isokinetics* represent a multibillion-dollar industry that is served by insurance codes from physicians and physical therapists. Neither the physicians, therapists, workers compensation caseworkers, insurance carriers, nor attorneys realize that it is total hoax.

Third, knowing or suspecting the foregoing is true, would you aspire to a career in exercise physiology? Do you believe that any practical person would want to hang out in a profession that continues to endorse fraudulent activities? And the fraud is not just the isokinetics. It includes the Aerobics, the degree programs, the testing tools, and on and on. And what arrogance was demonstrated by the exercise physiologists at Texas A&M to declare that Dr. McGuff lacks credentials to speak on exercise!!! In my opinion, the exercise physiologists should formally abdicate their right to discuss the subject of exercise.

And if there are no standards at the top of this supposed profession, if the *American College of Sports Medicine* is the fool's gold standard, what does this imply for the personal trainers who ostensibly receive approval through the industry's certification programs? How do you value the Gatorade® commercial that claims its product is tested in human performance labs? How do you respect the statements of drug testing at major sporting events? How do you respect the *President's Council On Exercise*, the *US Olympic Committee*, or *NASA's* exercise research? And why would a medical school seek out an exercise physiology department to study the effects of SuperSlow on HDL? What could exercise physiologists possibly hope to offer the investigation?

Of course, there are thousands of exercise physiology students and graduates out there who have no knowledge of these misdeeds. Most were born after the fact. They innocently subscribe to a system built on a legacy of fraud. The system is forever tainted.

Some of my friends and supporters over the years have suggested that we infiltrate the exercise physiology ranks and change their community from the inside. Some are trying to do this, but as I have already suggested, I prefer to scuttle the whole thing. Would a surgeon perform a skin graft from a donor site oozing puss?

Kam: So what do we do to fix this mess?

Ken: I really do not know if it can be fixed. My fantasy, I guess, is that the whole of exercise physiology could just be swept away and replaced by a serious science subspecialty either in the engineering or biology departments.

Kam: What about the physical therapists? Are they catching on to *SuperSlow*?

Ken: During my Nautilus stint, we revolutionized physical therapy in several ways. First, we required, whenever possible, that a surgical patient do strength training for several weeks before elective surgery. This fostered a level of strength that would return more rapidly after the surgery. Also, it better enabled the patients to handle the anesthesia. And it pre-educated the patient to know how to properly exercise after the surgery, thus saving us assimilation time.

We established the imperative of training the patient's whole body, not just his operative limb or joint.

We demonstrated that although early-stage rehabilitation requires almost daily bouts of repeated bouts of exercise, perhaps as many as three sets of each exercise for the affected limb or joint, once past the first one or two weeks of most joint surgeries, one set of each of 1-3 exercise for that area, performed only 1-3 times per week is usually best. By the sixth week, twice a week is too much for some. Of course, the remainder of the body is also trained at each workout. The entire workout takes less than 30 minutes. Longer workouts with more exercises merely retard progress and heighten irritation.

These practices, although not mainstream physical therapy, were typical at *Nautilus Headquarters* 20 years ago.

Recently, a friend and long-term client tore a knee meniscus. After I told her of Brenda Hutchins' similar problem, and that through *Nautilus* and *SuperSlow* rehabilitation we had avoided surgical repair, she did not desire surgery. However, my friend was railroaded by her company and by the workers compensation caseworker to do the surgery. Her boss suggested that she must not truly be interested in getting better if she did other than what the orthopaedic surgeon directed. The workers compensation officer told her that if she did not do the surgery immediately that she would lose her eligibility for future claims. Her family said much the same thing.

She had a successful surgery; however, she was then railroaded into the doctor's rehabilitation program at the local sportsplex. There she was forced to do 100 minutes of exercises for her affected knee in each of her three visits per week for 5 weeks. No exercise was provided for the remainder of her body. Although she quickly healed during the first 4 weeks, inflammation set in thereafter. This was due, of course, to the excessive volume of activity the therapist imposed on her knee.

Although excessive volume was not the only technical grievance I have with what was imposed on my friend, I do not intend to make this interview a how-to instruction for how to perform knee therapy. Let it suffice to say for now that her knee healed in spite of the therapy to a great degree. Her rapid recovery is not proof of good therapy as much as it is testament to the body's resilience to tolerate abuse. By abuse I am referring to the isokinetics-based ballistic movements, the jumping activities, the dynamic testing, the lateral functional movement activities, and on and on.

Now that her knee is inflamed, her doctor is going to prescribe an extension of the therapy program. His justification for the extension is that her knee is now deemed to be showing poor progress. And, of course, she is to be railroaded by doctor, therapist, workers compensation caseworker and boss to endure more of the same abuse. What's more, if one member of the medical team were to understand this abuse and see its correction, that member would be railroaded into compliance by the managed care system. That professional is not allowed to perform professionally if he/she wanted to.

When I hear the term, *modalities*, I cringe. Some modalities have a place to retard and/or decrease pain and swelling, but, by and large they are not the therapy. They are an adjunct to therapy. Many modalities are little more than superficial actions that permit the medical business to obtain money from the insurance carriers.

The physical therapists who I meet who are competent with *SuperSlow* assure me that many if not most physical therapists do not know much about strengthening muscle through exercise. This is the real therapy and is, of course, missed or compromised. The patients do heal to a significant extent without serious strengthening, as the body is often going to seek a return to *status quo* on its own. Modalities often help somewhat. A serious strengthening program would help much more.

I sometimes hear a physical therapist retort that, “But we are really not interested in muscular strength, we are interested in functionality.” Any therapists who make this statement should have their licenses revoked. *Muscular strength is the major basis of functionality.* This is perhaps the most important principle in physical therapy. And if student physical therapists do not get this in school, then their educational system is grossly flawed.

I have participated in several impressive rehabilitations through *Nautilus* or *SuperSlow* strength training. The most impressive case that I ever witnessed or heard about was that of Brenda’s knee. When I met Brenda in 1978, she was on crutches and had been for several weeks. Outdistancing the need for surgery had become a thing of the past, the discomfort since her 1970 injury had gained the upper hand. Brenda had been advised by her orthopedist that surgery could no longer be postponed.

Originally, she had suffered a torn meniscus during a frolic in the snow. Unable to bend her knee, she attended several semesters at University of North Carolina—Ashville, carrying books strung around her neck as she negotiated with crutches over wet floors, snow-filled sidewalks and through doorways on campus. She had seen several orthopedic surgeons. All were insistent that without surgery, she would never have a normal gait. Her parents questioned the wisdom of quickly operating, especially when one of the options suggested was to forcefully break free her adhesions under general anesthesia. So, she went home (with no therapy advice) and began a series of self-improvised exercises, managing to eke out a tolerable range of motion that allowed her to walk once again, but often with a limp. Note that this was back in the days before arthroscopic surgery, when the knee would necessitate opening.

I insisted that she might avoid surgery entirely, but that she should at least strengthen the knee musculatures before going through such a radical approach. Eager to avoid surgery, she was enthusiastic to give it a try. Within days of commencing leg extensions and leg curl exercise, she showed improvement. Within weeks she was completely off crutches and without swelling. However, the knee remained sensitive and easily irritated. Her knee comfort required regular exercise intervals—too much time between exercise bouts resulted in recurring knee pain.

As time went on, Brenda became very strong. She acquired an expert knowledge of *Nautilus Exercise Philosophy* and helped me to influence Dr. Michael Fulton, an extremely gifted orthopedic surgeon who had just accepted the post as orthopedic consultant to *Nautilus*. Fulton, who was entering uncharted territory regarding the role of proper strength training for treating patients, was somewhat hesitant to accept the extreme intensity with which I trained Brenda. I believe that, at first, it horrified him. However, he soon realized that, absent of joint or nerve pain, hard muscular work was the key to successful physical rehabilitation.

Eventually, Brenda had several major mishaps. At a Stetson University basketball game, she was elbowed in her affected knee by an excited fan. This set us back several months. Once recovered, she re-injured her knee when she tripped over an open desk drawer while working at *Flanagan’s Nautilus*. We never recovered this with the exercise, so Fulton suggested an arthroscopic diagnostic procedure with an accompanying retinacular release. Once in the knee with the scope, Fulton found the original meniscal tear and tugged on it to find that it had reattached and healed in proper place. He admitted that he had never seen this before. He aborted the release procedure and flushed substantial debris out with the saline, then closed. The knee has been without any major problems since the day of that procedure in 1981. What’s more, Brenda got to keep her meniscus. During these years, she has had no additional consideration for surgery.

Now this story actually occurred before the advent of *SuperSlow*. If we had had *SuperSlow* back then, by all estimates, the progress and the results would have been better. Of course, Brenda has performed nothing but *SuperSlow* since 1982.

Rehabilitation with *SuperSlow* exercise is the way of the future for physical therapy. If a therapist is weary of the quality and nuisance of the medical delivery system that constrains them, Gary Lindahl and other physical therapists are knowledgeable and wanting to share these new techniques to the rest of the

profession. For information on the *SuperSlow Zone*® PT Model, phone the SuperSlow Zone at 407.937.0050.

Kam: I am ready to hear more about the *Aerobics* issue. It seems we have blasted the industry at large without one of the main criticisms, that is, this subject.

Ken: I am not finished with the fitness industry, but we can come back to it later.

There is much already written about the *Aerobics* issue on this website, and I will try not to repeat it. So most of the following is new material.

There are two major concepts in exercise. One is the *steady-state* approach. The other is the *inroad theory*.

Most sapient beings who have ever lived on this planet have observed that they could EITHER run as fast as possible and forfeit the ability to continue for more than one or two minutes OR learn to pace themselves at a much lower intensity and maintain the stamina to continue almost indefinitely.

So you have a choice: fast and short, OR slow and long. Going as fast as possible AND long is not possible.

The quasi-technical term for the slow-and-long approach is *steady state*. This term has been around for many decades. Along came Ken Cooper in 1968 and gave it a boost with a new name, *Aerobics*. Although he had developed his program with a point system to embrace a larger audience—at first mostly in the Air Force—who did other steady-state activities such as tennis, swimming, basketball, dancing and the like, Cooper's focus was on running, more particularly jogging.

By the way, a more elevated notion of *steady state versus fast-and-short* was *aerobic versus anaerobic*. This implied that you chose to use either the aerobic metabolic pathway or the anaerobic metabolic pathway by virtue of the intensity of the activity. This has a little truth in it—very little. You cannot entirely cut off your anaerobic pathway or leap over your aerobic pathway. But we are getting a little ahead of ourselves.

A third distinction is *low-intensity work versus high-intensity work*.

It should be obvious that a continuum runs from inactivity to slight effort to moderate effort to great effort. We believe that exercise benefits are proportional to effort. Less effort yields less benefit. More yields more. I term this the *effort continuum*. This is *Jonesian Exercise Philosophy*.

Therefore, there is no such thing as easy exercise. Unless activity is demanding, it is practically worthless from an exercise perspective.

We believe that a fundamental error made by Cooper and his followers was that he started with the same point but in a different continuum from Arthur Jones. Cooper's continuum runs from inactivity to slight activity to moderate activity to great activity. Note that this so-called *volume continuum* begins with inactivity, and although effort increases along the continuum, *it never goes beyond a moderate level regardless of the activity volume*. Therefore, benefit from volume training is, at best, moderate. And *with greater volume the benefits decrease, because the stimulus is poor and the body's resources are usurped*.

A recent interest of Dr. Doug McGuff is the research that shows benefit to be roughly proportional to effort, not activity. Perhaps more important is a hunch that high-intensity exercise—that with the greatest effort—appears to offer a protective barrier during the bout. This is contrary to what most people assume about activity.

On this subject, McGuff has found support from an exercise physiologist from Cape Town, South Africa. Timothy Noakes, PhD, has noted that the body has special protective mechanisms in place that allow for high-intensity exercise to be safer than low-intensity work. Noakes has also blasted his own profession for

its blind allegiance to the maximum oxygen uptake test—heretofore, the supposed ultimate test for *aerobic conditioning*.

By his choice of the word, *Aerobics*, Cooper was either extremely lucky or very clever. Note that *Aerobics* is a proper noun, which describes his fetish surrounding running and other steady state activities. Properly, it is always written in upper case and always in plural form—with an *s* on the end.

The word, *aerobic*, is an adjective used to describe a metabolic pathway in the study of biochemistry. Except when used at the beginning of a sentence, it is written in lower case and without an *s* on the end.

These are conventions I assert because of word origins. These conventions are not common usage. *Aerobics* was the title of Cooper's first book, therefore its origin.

The two words—*aerobic* and *Aerobics*—are not equivalents, and this has led to the supreme deception of the century.

As used in everyday language *Aerobics* is not visualized as in print. No one speaks in capital letters. Also the words, *Aerobics* and *aerobic*, sound so close, only the most diligent linguist would keep them separate. To use them interchangeably is similar to the confusion of *reckless* and *wreckless*.

Naturally, almost everyone uses the words interchangeably. Instead of *Aerobics dance*, we hear and say *aerobic dance*. And since Cooper and his ilk have worked to set the aerobic pathway to the music of the heart, there has been a tremendous industry built up to foster this false notion. Never mind the science or the truth, doing *Aerobics exercise* is now almost permanently imbedded in many minds as synonymous with *cardiovascular exercise*. It has been such successful marketing that *Aerobics* is now falling into the background with a new posh term that completes the goal of the exercise physiology ranks. The new word is *cardio*. Taken literally, to do cardio suggests that I can cut your heart out of your chest and put it on treadmill. Of course, this notion represents the height of stupidity.

Reading this, one sportsmedicine doctor remarked, "...anecdotal reports and contrived jargon are no replacement for physiologic principles and sound scientific studies." I agree. But we must not overlook the fact that the clues and basis of formal research to discover the basic physiologic principles start with anecdotal reports. Also, if "contrived jargon" is an indictment of my writings, I argue that my word usage is more accurately *refined semantics*. What we name and how we describe phenomenon is the basis of better understanding and communication. Pure science starts with semantics, not with the test tube.

Kam: You mentioned an opposing philosophy of exercise as the *inroad theory*. Did you forget that?

Ken: No. I am just dealing here with a large gulp of information. I am getting to it.

Kam, Imagine yourself in a weightless environment. You are in orbit around the earth and free-floating. Do you encounter resistance when you move?

Kam: I guess not.

Ken: You guessed wrong. Even in a *weightless* environment you have resistance. Due to tonus, you encounter resistance when you move. Tonus is the tension of the muscles when at volitional rest. Tonus has never actually been measured, but this is its agreed definition.

You might note that *weightlessness* is caused by gravity. There is no such thing as *zero gravity* unless you say "zero-net gravity."

We have a tricky thought question on the *SuperSlow* Level I written exam. It asked, "What is meant when the muscle system is said to be "loaded?"

With this question I am looking for a particular term. There are several rough equivalents to the word, “force.” Examples are:

- Resistance
- Weight
- Pressure
- Gravity
- Tension
- Load

There is a particular one of these that I like for the state of *being loaded*, a special condition, as I will explain forthwith. The term is *tension*, as it connotes something long and stringy and used by engineers with applications like *tensile strength*, *tensile limit*, *tensiometer*, and so forth.

Gravity, by the way, is more properly considered an acceleration, although people often say, “the force of gravity” or “the gravitational force.”

Inroad is another term we use. It indicates a significant fatigue of a muscle or muscle system such that in an exercise we begin with a fresh or starting strength, and its ability to produce force dwindles to less and less. In our philosophy of exercise this inroad occurs until the muscle fails. In other words, it becomes dysfunctional due to momentary weakness. And somewhere within the inroad process we cross a threshold that renders a stimulus for the system to grow and to become stronger. The whole point of exercise, biologically speaking, is to stimulate a growth mechanism.

As far as we know, *the inroad process is what exercise is all about*. Without it, there is no meaningful exercise. Without it, the stimulus is not elicited.

Now for another important question: Does inroad occur due to the tension of tonus?

Kam: I would think not, but I’m not so sure.

Ken: The answer is yes and no. If we consider inroad to be such that meaningful fatigue is produced, well then, no. However, we should at least acknowledge that some minute weakening does occur due to the resistance due to tonus. This weakening is so slight that the rotation of weakened motor units for fresh motor units makes the net effect practically zero.

Another question: We established that you would have resistance, although not meaningful resistance, even in a weightless environment. This assumes you are healthy. Now, what if you die, will you have resistance?

Kam: I don’t know.

Ken: Yes. You will have increasingly more resistance as *rigor mortus* sets in. You may not have resistance against volitional movements, but you certainly will possess more resistance to anyone live who attempts to move your joints.

So, in answer to our original question—What quality does a muscle possess when under load?—A muscle under load possesses *meaningful*—saying merely *tension* is not enough—*tension*. And *meaningful tension* means *tension meaningful enough* to inroad the muscle to a state of dysfunction within a reasonable time. This reasonable length of time is 1.5 to 4 minutes—giving a rather liberal window still consistent with our philosophy.

Meaningfully loading a muscle system to effect inroad and failure is a special condition of the life experience. Other animals do not do this, because doing this requires an intellect that overrides instincts. And because of this, it is a belief of mine that inroad ability and intelligence are in some way linked.

Note that there are several ways to defeat inroading. You can exert a meaningful effort against a load yet apply it so briefly that the muscle recovers during a rest interval before you apply it again.

I have seen physical therapists instruct patients to perform a static or isometric effort to a device for 5 seconds only to permit the muscles complete recovery during another 5 seconds before retracing the same inroad ground for another 5 seconds. The inroading perhaps never reaches the stimulation threshold, and when and if it does, the subject has performed an excessive *quantity* of metabolic work, thus hampering the body's recovery and growth response. More on this later.

Also note that the foregoing makes the words, *resistance exercise* meaningless. All movement has resistance; therefore there is no qualification in adding *resistance* as an adjective.

Recently, you hear it suggested that you do *weight-bearing exercises*. This is another meaningless term for much the same reasons. *Non-weight-bearing* once referred to a bone like the fibula that you could virtually ignore for support. This orthopedic reference to *weight-bearing exercise* has recently been taken out of context by the exercise physiologists and personal trainers to mean something beneficial for increasing bone density. All bones have weight and bear weight under normal circumstances.

Another way to defeat inroading is to pace at an intensity lowered enough to permit a steady state. This is why we call *Aerobics* "empty exercise." *Aerobics* is actually *anti-exercise* or *un-exercise*. If exercise is about turning on the big chemistry of the body, then *Aerobics* is antithetical to this process.

Kam: But, again, what about the heart?

Ken: You're not hearing me. Apparently, without anyone suspecting it, I have already slammed the ineffectiveness of *Aerobics* to address the heart. But I have more.

Arthur Jones would pose, "If you are going in the gym on a regular basis and you are not getting stronger every time you go in there, then why are you going there?"

Dr. Philip Alexander says, "It's a packaged deal."

Why do you suppose that Dr. Alexander has suddenly found doublings of HDL, dramatic ramp-ups of bone density, and other phenomenon such as the apparent enhancements of insulin receptor sites? Don't you think that myriads of doctors and physiologists have been doing these tests for the last 40 years? Why now? Because only now have we, through *SuperSlow Protocol and Philosophy*, effected a deep metabolic response in the skeletal muscles with a medical doctor looking on to draw some blood.

One of Arthur Jones' most valuable contributions is the *Functional Ability Argument*. In human performance there are several factors that are essential for the body to execute any physical action. But there is only one of these that actually produces the force to cause movement. This factor is the strength of the skeletal muscles. And a corollary to this argument is that the skeletal muscles remain the only window into the other systems. At least with exercise, the only way into the bones, into the metabolism, into the vascular system, into enhanced joint stability, and anything else, is by strengthening the skeletal muscles.

Kam: But isn't the heart a muscle too?

Ken: I can't believe I heard this lame rhetorical question from my own brother.

Sure, the heart is a muscle, but it is an involuntary muscle. And why didn't you ask, "But isn't the stomach a muscle too? OR "But isn't the bladder a muscle too?" OR "But isn't the lower intestine a muscle too?" All of these anatomical structures are made up of some type of involuntary muscle that you do not volitionally control. The only muscle you have that is directly controlled by your will is skeletal muscle. Your heart, as important as it is, is supportive of and dependent upon the actions of the skeletal muscles.

The very word, *exercise physiology*, connotes backward thinking. It is intended to suggest that physiology is the basis of exercise. Well, yes, sure, we are interested in the physiological changes that might improve from the application of exercise, but the physiology is not the basis. Mechanical loading of skeletal muscles is the basis of exercise. Improved physiology is what comes out the end of the equation. The exercise physiology people have the proverbial *cart before the horse*. They confuse *cause* with *effect*.

Along with this, and greatly the fault of Ken Cooper, is the image that has been built up in people's minds that the heart is the center of things. Geometrically, this may be true, but metabolically it is not correct. Where do we find the greatest collection of mitochondria, those organelles of the cells that convert raw foodstuffs into the energy currency of all cells known as ATP—adenosine triphosphate? Where do we find the greatest innervation, the greatest water reservoir, the greatest heat production, the greatest chemistry ongoing, and the greatest blood supply? Answer: The skeletal muscles! The skeletal muscles are, collectively, the metabolic focus of the body.

And what part of the body is usually deemed the most nutritious by carnivores—so-called flesh eaters? The skeletal muscles!

Kam: So how do we get from the mental framework of the skeletal muscles to the heart?

Ken: During my stint at Nautilus and before *SuperSlow*, I encountered an occasional anomaly we termed *exercise-induced headache* or *EIH* as we say. It was so strange and unlikely that we tried to ignore the situation as anything other than a condition of some freaky subject.

With the advent of *SuperSlow* exercise, EIH became very prevalent. We struggled to accept that something so beneficial in all other aspects of exercise could elicit this horrible pain in 10% of our clients. “Was EIH indicative of better loading during exercise as well as more prone to happen for the same reasons?” we wondered.

EIH presents almost exclusively to novices who have relatively strong legs and poor upper body development. It appears with the subject believing he is imagining something crawling up the back of his neck. Since this is not painful or even certain, he goes on, ignores the sensation, and within 2-3 repetitions it intensifies to the level that the sensation travels from the occipital to one of the orbits. In its most rare and worst form, it is so painful he can hardly bear to keep that eye open. It can last for several days.

We had learned to both manage as well as to prevent EIH, but we never knew what it was until Dr. Doug McGuff came along. He purchased my book about 5 years ago and read it, including the appendix where I had detailed my experiences with EIH. Although he was aware of these, he encountered an EIH in a subject he put through a *SuperSlow* workout. The subject sustained a full-blown headache, which prompted McGuff to find a more complete explanation for this bizarre phenomenon.

McGuff's EIH explanation was that the venous return from the lower body overwhelmed the compliance of the venous system to the extent that the venous blood was pushed into the cranial sinuses to stretch the dura, the covering of the brain. This stretching is known to have a classic *thunderclap-type pain*. Other than being painful, it is benign as far as anyone knows.

And although I would never wish this on anyone, there is a silver lining here. If caught in the early, non-painful stages or if treated successfully, it does not return. This suggests that within only a few workouts, the compliance of the vascular system has adapted in a big way.

Note that you don't get EIH from conventional cardio. Why? Because steady state activity is such inferior loading that venous return is relatively inferior and places a proportionately inferior demand on the system's compliance. Therefore, the opportunity for vascular improvement from steady state activity is inferior.

Also note that you don't get another related phenomenon: *helmet head*. This sensation results in some high-intensity exercise subjects and is thought to occur momentarily due to the increased vascularity in the vessels around the Eustachian tubes. Again, steady state activity is not vascularly significant to cause this.

Most exciting is the possible connection of EIH to *extra corporeal counterpulsation* or *ECCP* or *counterpulsation* for short. This is a procedure used in recent years to treat angina patients who need a bypass, but who are in too poor health to survive the operation. Cuffs are applied to the legs while the patient is in a supine position on a treatment table. The cuffs alternately inflate and deflate to milk the blood up to the right side of the heart.

In cardiology there exists a basic rule known as *Starling's Law*. It simply states that cardiac output is largely determined by the blood return to the right atrium from the rest of the body. On the surface, this sounds pretty silly. After all, do you seriously believe that you can pump more blood than what enters the pump? As more is learned we see that Starling's Law is justified.

Blood is not sucked into the heart as we might think of a typical water pump. It is pushed there by the action of skeletal muscles milking the venous blood up a system of levees, so to speak. As one level is attained, the blood is prevented from caudal travel by a series of valves. Even during static muscular contraction the intermittent or fasciculating contraction of the skeletal muscles propels the blood toward the right atrium. The more the right atrium is filled, the more it is primed for a contraction that also ultimately affects the contraction and greater ejection out the left ventricle and into the aorta.

The aorta is a flexible hose, if you will, that expands with each left ventricular ejection. At the end of this ejection, the ventricular valve closes and the aortic contraction slams some of the blood back toward the heart. This *backwash* is more dramatic with more ejection. And since the backwashed blood cannot enter the closed ventricular valve, it goes into some orifices around that valve which feed into the coronary arteries to nourish the heart. These arteries are the concern in classic heart disease. It is these arteries that counterpulsation treats to dilate as well as to form collateral tributaries.

Counterpulsation has worked so well that many candidates for bypass have been prompted to try the counterpulsation. Would not anyone prefer this to having his or her chest cut open?

Now realize that I would not know anything about counterpulsation if it were not for Dr. McGuff. Also I might not have ever made the connection with EIH without his knowledge of the body and interest in exercise. This next discovery of his is potentially one of the most important discoveries in medicine.

Like my early experiences with EIH—where I was reluctant to talk about this nuisance—there is a little known side effect with counterpulsation. It is obscure and caught only by someone perusing the cardiology references as did Dr. McGuff. Kam, guess what this is?

Kam: You've got to be kidding. Is it headache?

Ken: You betcha! And Dr. McGuff supposes that we already have one example of a long-term *SuperSlow* practitioner who has created his own bypass to survive a massive and almost certainly fatal coronary.

Now it is extremely important that it be understood by our entire audience that this is extremely preliminary. We are not making claims by this. And we admit that one or two cases do not make a controlled study from which to base conclusions. There are other possibilities to explain a complete recovery from a complete blockage of the main coronary artery. But it does offer hope that some cardiologists around the world will pursue these insights by Dr. McGuff.

Dr. McGuff has further suggested that doing *SuperSlow* leg presses to foster proliferation of collateral coronary supply has several advantages over ECCP. ECCP is expensive. A seven-week program for five days per week costs \$11,000. ECCP is passive, awkward and produces no lactic acid that would otherwise aid in dilation of the coronary vessels.

And if it does come to pass that McGuff is correct, then *SuperSlow* will be the focus of cardiac rehabilitation, not the present *Aerobics*-based, so-called *cardio*.

There are many other aspects of Dr. McGuff's insights into *SuperSlow*'s effects on cardiac health. Articles can be read on his website at ultimate-exercise.com.

Kam: I have heard that Dr. McGuff was originally booked to go on the *NBC Today Show* back in February. What happened to this?

Ken: The NBC executives didn't feel comfortable with the prospect that McGuff was not going to reinforce that people need to keep up their damned *Aerobics*. They missed a big opportunity to scoop everyone, including this interview, about what might turn out to be the most important exercise medical application in the history of the world.

You know, people get very disturbed when I condemn *Aerobics* philosophy. Their emotional reaction is so strong that you'd think I had committed a crime. By putting *Aerobics* asunder, I have killed something dear to them, even if they are not active in its pursuit. It is puzzling.

Kam: Why would McGuff's find be so important?

Ken: Because heart disease is the most dreaded and commonplace cause of death in our society. It consumes a tremendous amount of money and is, ostensibly, the most supportive reason for the multi-billion-dollar fitness industry.

Kam: Of course, *Aerobics* will remain important to all those people desiring to lose or control their weight, right?

Ken: Not so fast, brother. I have already mentioned that exercise, any kind of exercise, is an inefficient method to burn calories. Even so, if you do enough steady state activity, especially if you stay so preoccupied that you cannot access food, then you may have a significant negative net calorie balance, and lose fat. But guess what? You will also decrease your basal metabolic rate.

A depressed metabolic rate is what *Aerobics* will produce, not the hedge against fatness often promoted. And this depressed metabolic rate is due to the muscle wasting produced by steady state activity. This wasting implies the possibility of other muscle-related compromises in function and health.

The major requirement of fat loss and control is rigid calorie counting. A major role of exercise is to cause muscle growth to force a discriminate weight loss, in other words the loss of fat and not muscle. *Aerobics* or steady state does just the opposite.

Another major role of exercise for fat control is, of course, to raise metabolic rate. And since this is intimately associated with muscular strength and size, *Aerobics* fails us again.

Kam: What do you not like about the fitness industry other than the *Aerobics*?

Ken: To me, the entire fitness industry is, metaphorically, a carnival. Go to any of their conventions. You have the loud music, the bright lights and leotards, the vendors selling all kinds of snake oil, the whirring of the treadmills and bicycles, the phony testing tools, and on and on. I want nothing to do with it. It nauseates me. And most of this is based, directly or indirectly, on a belief system fostered by *Aerobics* philosophy. It's absolutely asinine.

Sometimes worse than the *Aerobics* pushers are those touting explosive weight training. If this type of exercise had benefits they would be completely cancelled by the injuries it causes. In my opinion, these advocates are a lower form of life than the *Aerobics* crowd. Don't bother discussing exercise or anything else with them. They are untouchables.

Kam: Is it fraudulent?

Ken: Certainly, much of it is, but we must realize that people who are sincere, and who are innocently ignorant often promote bogus ideas and products. The real sorrow is that the consumer is wasting precious time, time that could be spent getting far greater benefit from *SuperSlow* that is often usurped by the mainstream activities.

I cannot prove or quantify this next bias, as it is merely my personal feeling: To me, the fitness industry is a cesspool. There you will find paltry standards, not only in science, but in business as well. My impression is that dress codes are relaxed, that there is little respect for one's intellectual property, and that hucksters abound. It attracts the weakest minds as well as the unscrupulous to prey upon them. It is sort of like the spring in the desert. It attracts the prey and the predators. The paradox is that everyone, including outsiders, refuses to notice its inequities. Ken Cooper and others continue to promote fitness as though it is squeaky clean, moral, and godly. It is just the opposite.

If the goal is to deceive your fellow man, the best place to apply a con is the general area of intangibles. It may still be possible with tangible goods, but not as easy. Then under the broad heading of intangibles is medicine or health. This is where the image of *snake oil* arose. But if you are a confidence player with a need for an area of commercial activity with practically no standards by which to trace or judge the fraud, the subcategory of *fitness* is the easiest prey. And it falls into the deception yet more perfectly if it is promoted as clean, moral, righteous, etc.

I once took a series of calculus courses with a friend who had previously studied the supposed ways that humans were superior to lower animals. He listed the opposing thumb, higher cortical centers, standing erect, awareness of death, communication skills and so forth. Then he correctly acknowledged that if each animal were placed in its special environment then its adaptations were just as unique and specific as were humans'. Therefore, he mused that our supposed superior traits might not be so unique as we believe. However, he pointed out that calculus might just be the one thing that did indeed distinguish us from the other animals. And, if that is so, then our romance with exercise puts us right back down there with the chimps.

Kam: Well, do you believe that a large part of the reluctance to accept *SuperSlow* philosophy is the fear of being less needed commercially? In other words, do the big clubs fear loss of revenue when they hear you state that only one or two 20-minute workouts per week will get subjects optimal benefits?

Ken: Sure. But in business, profit is more important than cash flow. If the big health clubs could rid themselves of the massive overhead devoted to steady state, they would see more profit due to *SuperSlow* exercise. This is a win/win/win. Better results for the customer, better career for the instructor, better profit for the facility owner.

Kam: How is it that mainstream products or practices usurp the rewards of *SuperSlow* exercise? What would be wrong with doing *SuperSlow* once a week and walking on a treadmill on the off days?

Ken: We have this erroneous assumption in our minds that exercise produces benefits. Understand me clearly: *Exercise does not produce benefit.*

Much of the nonsense that prevails in the fitness industry is predicated on a misunderstanding of this fundamental principle. The human body, in response to the exercise stimulus, produces all the benefits of exercise. This, of course, assumes that the exercise stimulus occurs, and that the body is able to respond to the stimulus.

It is easy and natural to fall prey to the idea that exercise is directly rather than indirectly connected to the benefits we hope to attain. The example of the electric light serves well to illustrate this confusion.

If you entered Edison's lab and saw him flip a switch to witness artificial light for the first time, you might suppose that the switch caused the light. By flipping it, the light comes on.

If you extend this infantile association, you might later find that the light fails to come on as you throw the switch. Therefore, you try the switch over and over. You push it harder. You finally find a hammer to beat it. In desperation you decide that the switch is defective, because you do not realize that it is electricity that makes the light. If you are ignorant of the cause, you blame the factor in the closest or most obvious vicinity.

In a similar situation, the light is on, but you want it to be brighter. You want more of it. So you either push the switch harder or beat it with a hammer.

Perhaps you get a third idea. You conclude that if the switch is the stimulus for the light, and that more light must require more stimulus. Therefore, you decide to switch it on repeatedly in rapid succession.

Well, guess what? Not only does the light not burn brighter, but also you waste a lot of electricity with the surges to restart the bulb with each switch throw. Additionally, you shorten the life of the bulb by imposing these surges on its element. This is almost exactly what people do with their notions of exercise volume.

The human body can respond only so much to a given stimulation. More stimulation does not force more response.

Kam: But what if I merely do some light jogging on only one of my off days? Will it really impede my progress that much?

Ken: This depends. The stronger and more advanced you are, the greater the compromise. Beginners, apparently, might do more overall work by engaging other activity and not hurt their progress, but once they are stronger, they will be more capable of insulting their recovery system to obtain less than optimal results. This is not to conclude that the beginner might not have made faster progress if he had been more of a purist to begin with. His results are only optimal if he optimizes the rest between the exercise doses.

Doing other additional activity becomes a matter of choice. There are many choices in life. Would I prefer to go to a movie or go to a play? In the same time span I cannot do both. Within a two-week period, do I desire optimal physical improvements from my exercise program or do I choose to obtain somewhat less than optimal by swimming laps several times a week? Most important here is to be aware of the choices. Perhaps, the laps in the pool are psychologically rewarding to the extent that they are more important to one person and less to another.

In making the choices, you must remember, however, that you will obtain everything, and more, from an exercise standpoint, by way of the *SuperSlow* as you did from the swimming or whatever your chosen activity.

Kam: Oh, I like to get that endorphin high that everyone claims from steady state.

Ken: Well, if you really must, realize that you can get that same high with much less abuse and without so-called *cardio* equipment. Just put one third to one half of your training weight on a leg press machine and do slow reps for an hour. It is not necessary to have *cardio* equipment to perform nonsense.

Kam: Apart from the usual Aerobics debate, I have read Wayne Westcott's other reservations to *SuperSlow*. If we can believe the news media, Wayne is discouraged that people show poor compliance to a *SuperSlow* program. How do you respond to this?

Ken: Again, I would like to reiterate that what we might believe is Wayne's take on *SuperSlow* may be a false image entirely built up by the media. I have experienced several situations where I was interviewed by a writer who asked good questions, and who seemed to grasp what I stated with my intent. Only later, I would find that another who finished the story replaced the writer. This second writer never interviewed me. And to further complicate the issue, the senior editor made changes, contracting or expanding the story, and rearranging my statements with different emphasis. Assuming this last version goes to print and is

widely circulated, other magazines pick up the story or parts of it for their own story and never bother to interview at all. Journalism is pretty sloppy. Perhaps it is a perfect marriage with exercise physiology.

Getting people to follow *any* program is difficult. Most people do not have the motivation, patience, and discipline to make a go of anything for longer than six weeks. This observation is not limited to *SuperSlow Exercise*. It applies to a marriage, a diet, an academic study, learning to play a musical instrument, and a vocation.

From the medical community, we are hearing that *SuperSlow Exercise* can have great health benefits unattainable elsewhere. And Wayne has stated that it shows better results than conventional protocols for the elderly, for beginners, and for veteran weight trainees trying to break a plateau. If this is true, then why does Wayne go on to say that it should be done for only short spells of several weeks intermixed with conventional approaches? Why the hell wouldn't you do *SuperSlow* exclusively?

If you are trying to drive a 16-penny nail through a 2 x 4 and you have been using your bare hands for several years before someone offers you a steel hammer, why would you then alternate between your hands and the hammer?

Another complaint that I feel is indicative of Wayne's faulty critical thinking is his apparent criticism that people just will not do *SuperSlow* because of their emotional needs of some kind. Look, if something is as beneficial as *SuperSlow* is being shown, then not liking it is not an issue. There are certain things in your life you do because you have to, not necessarily because you like them.

If you go to your dentist with massive tooth decay and he says, "Kam, haven't you been flossing and brushing your teeth?" And you answer, "No, I don't enjoy doing it." Enjoying the work to maintain dental hygiene has nothing to do with the outcome. You brush and floss because you must to keep your teeth and gums. Wayne really embarrassed himself on this one.

Along with his supposed reservations is included the complaint that *SuperSlow* is boring. Again, if you are in the gym to be entertained, then admit that is the reason you go there. But then you have no right to complain that you are not obtaining optimal results from an exercise program.

Just for the record, *SuperSlow* is not nearly so boring as doing most of that steady-state nonsense. Really, I can't imagine being on a treadmill, a bicycle or a stair-climber, even with the make-believe, electronically created fantasy-world programs on these devices. I'd rather be at the arcade with my friends.

Wayne is a nice guy. People like Wayne. And his clients and subjects tend to be interested in what he does as long as Wayne is excited about it. When he loses interest, they probably lose interest. And an evaluation regarding compliance is difficult to separate from personality traits and magnetism. I know of facilities where *SuperSlow* is in such demand that *SuperSlow Certified Instructors* cannot be hired fast enough.

Wayne was recently quoted in *Ladies Home Journal* as having only one or two subjects out of 147 still doing *SuperSlow*. John Wood has seen just the opposite in his programs. In a 30-day weight-loss research program with over 100 participants, of the subjects following the diet and doing *SuperSlow* and intentionally avoiding additional cardio, over 70% finished the program. Of those doing the same diet and *SuperSlow Exercise*, plus 900 kcal of additional cardio per week, only 27% completed the program. Both groups had a statistically identical average weight loss of 11 pounds. I suspect that if you look further into Wayne's research, his participants were encouraged to do cardio, which could explain why they didn't stick with it.

Ellington Darden saw the same trend in 1985 during the *Nautilus Diet Study*. During a 10-week program with one group doing strength training and another group doing a mixture of strength training and *cardio*, not a single subject of the latter group finished. Both groups combined totaled about 60 subjects.

I now have two clients that have doing *SuperSlow* for over 15 years. I have 4 that have been compliant for 13 years. I have six who have been compliant for 10 years. I have 9 who have been compliant for 8 years.

And I have 13 who have been compliant for 6 years. I do not know of any treatment program that can boast compliance for such a length of time.

Apparently, the poor compliance with *SuperSlow Exercise* Wayne observed is a reflection on Wayne, not on *SuperSlow*. And Wayne's shortsighted experience and interpretation of this results in misadvice to millions who read his interviews. In addition, my compliance numbers might be much better if I could force Wayne and his exercise physiology colleagues to speak sensibly about exercise to the American public. I blame most of my noncompliance problems on Wayne and people like him.

Kam: Can compliance be improved?

Ken: Certainly. It starts with educating people to the real benefits of exercise. People can't make a balanced choice when they are continually bombarded with ancient dogma. And choices become limited and clearer when a person is faced with personal imperatives. Usually, middle-aged and older people take their health more seriously. Often, they are past their more reckless days and want something that works with a high degree of safety and with less expenditure of time.

Also, the military is now interested in *SuperSlow*. I have just learned this recently. *SuperSlow* is the training method of choice for paramilitary forces, and Special Forces such as the FBI, Pararescue, and the civilian police and paramedics. It is somewhat ironic that we have come full circle from Cooper's military application of *Aerobics* to the military's interest in *SuperSlow*.

Kam: If this is true, why not approach the professional sports teams regarding *SuperSlow*?

Ken: I read that professional and collegiate teams are using *SuperSlow* exercise. I believe that they may be training with a basic protocol that is similar, but I am not convinced that any of them are applying *SuperSlow* exercise philosophy more than piecemeal.

Besides, I am really not interested in all the celebrated and pretty people. They are a small percentage of the population. I am more interested in the common man and woman that *SuperSlow* can benefit. If the athletes and the models and entertainment stars want the benefits, they are welcome to come along if they like, but they are small potatoes to me. The big picture is all those folks who are overfat, depressed, elderly, or debilitated in some way.

Kam: So, what's next? Where do you see *SuperSlow* going from this point?

Ken: I don't see anything. Just like anyone else, I cannot see the future. I do what I do, and what comes of it, who knows?

It appears that the media blitz has taken on a life of its own. It seems to generate itself. And if I wanted to stop it, I probably could not.

If *SuperSlow* is shown to have large-scale medical value, it will be due to influences within the medical community. It is mostly out of my hands. I talk to many doctors, but no doctor is going to lay his professional career on the line for what I say or believe unless it can be shown to have validity.

And I want it to be perfectly clear that just because I mentioned certain of the professionals in this interview as supporters of the protocol and exercise philosophy, their mention does not indicate that any or all of them agree with my personal opinions on the various other topics herein.

Kam: What will happen to the Aerobics movement?

Ken: In some ways, it is losing ground fast. Sometimes, I feel as though I have to bring up the subject or it would not be mentioned; however, it remains as an automatic impulse with most reporters and readers.

Aerobics has become *passé* even for those who do not know about *SuperSlow*. Recently, the ubiquitous *target heart rate zone* was publicly disputed by having been taken out of context and misapplied to the general public. We have known this as a hoax for many years now, but its widespread admission has been just one more chink in the *Aerobics* armor.

By *SuperSlow* standards Kenneth Cooper and his kind have never observed exercise. They have never defined it. They have never experienced it. Why then, should anyone care what they have to say in the matter?

I do not doubt that Kenneth Cooper is a sincere man, and that he meant well. Perhaps we should say that he was sincerely wrong. He just bet on the wrong horse. He has wasted his life. I feel sorry for the man.

Kam: What would you like to see changed in the industry?

Ken: We have a lot of work to do over. People are so confused. They are forced to consider the *Aerobics* people preaching against the sin of missing your target heart rate. There are the steroid addicted bodybuilders, the coaches committing malpractice by instructing pliometrics and other ballistic movements, the Pilates followers telling us that you can defy biology by lengthening your muscles, a confusing mismatch of nutritional information, the *Tai Bo* nonsense, the isokinetics testing hoax by the physical therapists and the insurance companies, and millions of otherwise intelligent people who are desperate to believe that spot reduction really works. In fact, this latter example is proof enough of how really idiotic are we all. I sometimes amuse myself with the probability that many of my clients would ask me to instruct them to perform sit ups in the floor though all 30 of my exercise machines were for isolating the abdominals. It wasn't so long ago that all of us were still howling at the moon. Is it really any wonder that we have reserved some aspect of our lives to continue doing that with exercise?

The fitness industry, on one hand wants to promote new. New...modern...future...cutting edge...On the other hand it is paralyzed with fear of the changes that are to be wrought by *SuperSlow*. What a conflagration of paradoxes. The *new* they embrace is backwards and unsophisticated and, what's more, highly unprofitable. The fitness industry has been on the ropes for a decade by now.

On the other hand, the real progress, *SuperSlow*, can soar the industry to heights never attained before. The exercise equipment companies can sell more equipment at a profitable price. The program so desperately needed for business survival is provided. The instructors have a living and a career. The facilities no longer need expensive, high-maintenance cardio equipment and the acres of space to house it. And the cost of professional liability insurance is a small fraction of what is presently required. All of this is made possible, because we deliver value to a customer who is aware of its benefits and is willing to pay for it. This is all for the right reason. And the industry is presently doing all it can to deny *SuperSlow*, to diminish its value, to dilute it, to blend it in with the already-existing trash. Why?: greed and fear.

By the way, I resent that I and the other *SuperSlow* instructors are forced to pay professional liability insurance premiums based on what all the other bozo instructors are doing out there. The insurance industry is just as ignorant of the necessary safety standards as is the typical man or woman on the street.

Kam: If the industry is so bad, why don't you just leave?

Ken: I consider it daily. And have the ability to drop off the radar anytime I choose. But the answer to: "Why do I do this?" is the reverse of the question: "Because this is what I do."