An Interview with Arthur Jones
by Brian D. Johnston

Arthur Jones is the most influential figure in exercise science, and has been for over twenty-five years. The magnitude of ridicule and concept stealing he has endured should attest to that fact. His discoveries and contributions have finally made it possible to prescribe meaningful exercise and rehabilitation to millions of people, potentially saving the health care system billions of dollars annually (if the scientific field decides to focus its mind and listen). Mr. Jones provided HDB some of his valuable time to answer questions about his background, discoveries and thoughts on the position of full muscular contraction.

BJ: Prior to becoming involved in exercise science, you led a very interesting and varied life. Provide our readers your background before the days of Nautilus.

AJ: I was born in Arkansas prior to the start of the Great Depression but moved to Seminole, Oklahoma, in 1929. My father was a medical doctor who graduated from medical school in 1911 and then worked as a doctor in Panama while they were building the canal there. After we moved to Oklahoma my mother attended medical school at the University of Oklahoma and graduated in 1936. My only brother and one of my sisters attended medical school in Little Rock, Arkansas, and graduated shortly after the start of World War 2. Altogether, in my more or less direct family, I have had a total of fourteen relatives who were medical doctors.

Having then had no interest in the study of medicine, and very little interest in formal education of any sort, I left home in my early teens and seldom went back except for brief visits. I spent several years traveling all over this country and major parts of Canada, Mexico and Central America, working at a long list of jobs of any kind that I could find; but, that being during the Great Depression, jobs were very hard to find and paid very little. In 1939, I started flying and have been flying ever since; having owned and flown just about everything that will get off the ground under its own power, from helicopters to heavy, four-engined, intercontinental jets. After the war, using surplus B-25 medium bombers, I operated an unscheduled airline hauling cargo from several countries in Latin America.

Having been very interested in wild animals of almost any kind, I was in the "animal business" for quite a long time, importing everything from monkeys and snakes to African elephants; over a span of several years, I imported a greater variety, and far greater numbers, of animals then everybody else in the world combined, literally hundreds-of-thousands of monkeys, thousands of tons of snakes (we sold snakes by the pound) and millions of tropical fish. As recently as 1984, I imported 63 African elephants, hauling all of them from Africa to a landing strip on my farm north of Ocala, Florida, in one of my big jets. At that time I had by far the largest private collection of wild animals in the world, including more than 4,000 crocodilians (alligators, crocodiles, caiman and gavials), also including the largest crocodile ever seen since the days of the dinosaurs, an animal that would, and did, take food from our hands.

Having also been interested in exercise since my early teens, and having soon discovered that lifting weights was by far the best form of exercise for my purpose, I exercised when and where I could find the time and the required equipment. All of the people who knew me in those days were very favorably impressed by the results of my exercise, but I was personally never satisfied, had the strong feeling that something was "wrong" and that my results would be even better of I could find out just what was wrong. So, in attempts to improve my exercise results, I designed and built a total of about twenty very sophisticated exercise machines, then believing that these were the first exercise machines ever built by anybody. But many years later, I learned that a doctor named Gustav Zander had designed and built a number of exercise machines in Europe nearly a hundred years before I built my first one; I did not copy Zander's work and learned nothing from him, was not even aware of his work until long after I had made the same discoveries that he had made. But if I had known about, and understood, Zander's work, it would have saved me a lot of time and a rather large fortune in money, because the man was a genius; his only problem was that he lived about a century ahead of his time, at a time when very few people cared about exercise and even fewer knew anything about it.

That situation, at least, has changed: now we have millions of people who care about exercise and perhaps a couple of dozen who know anything about it.

In 1956, while capturing hundreds of large adult crocodiles in Africa, something that nobody had ever done before and something that was generally considered to be impossible, I made a film of my activities, a film that I later sold to the then new ABC Television Network, a film that was first aired in 1957 as part of a television series called Bold Journey. As they say . . . "One thing then led to another," and I soon found myself in the business of producing films for television. Initially I produced films to be used in series being distributed by other people, but eventually I had my own series; within a period of about twenty years I produced a total of more than 300 films for television. Including all of the episodes of the series "Wild Cargo," "Capture," and "Professional Hunter," as well as films for other series.

You must understand that it is not only possible, but highly desirable, to do several things simultaneously; thus, it happened that I was operating an international airline, importing thousands of live wild animals, producing films for television and building exercise machines all at the same time. In my opinion, many of our current problems are direct results of specialization; which is why the scientific community has now degenerated to the point of being a sick joke.

When I first became seriously interested in the subject of exercise physiology, more than sixty years ago, I was unable to find anything of any slightest value that had ever been published in the scientific literature; that being the case, I believe, primarily as a result of two factors: ONE, very few scientists had any slightest interest in exercise, and, TWO, it was then impossible to determine the results of exercise for the simple reason that the required tools for any such measurements did not exist. REMEMBER: it is impossible to evaluate, or even understand, anything that you cannot measure.

Then, about thirty years later, following the interest in aerobic exercises that resulted from the publications of Dr. Kenneth Cooper (books and articles that initially were ridiculed by most of the scientific community; ridiculed, I believe, because Cooper did not bother to consult with any of the then existing self-appointed "experts," nor did he submit his ideas for review by any of the supposedly scientific journals). Nevertheless, even without the approval of the scientific community in general, many of Cooper's ideas took firm root and flourished. Such eventual acceptance resulted, I also believe, because many scientists suddenly realized that there was a lot of money in them thar hills; or, as they say in the FBI, if you want to understand the motivation follow the money.

Now, before somebody jumps to a wrong conclusion and assumes that I approve of either aerobic exercise or Kenneth Cooper, let me say that most aerobic-style exercises are worthless for any purpose, many of them are dangerous to the point of insanity and that Kenneth Cooper is a borderline idiot who knows less than nothing about productive exercise. Too strong, a rash statement? No, quite the contrary: in 1975, while I was conducting research at the U. S. Military Academy, West Point, Dr. Cooper sent two of his associates to West Point for the purpose of conducting an extensive battery of tests in order to evaluate the cardiovascular results of the exercises that our subjects were performing. But then, afterwards, Cooper was so surprised by the results that he not only refused to believe them but even refused to read them. We had, in fact, produced far better results in six weeks than Cooper could have produced in six years, or even six decades; results so outstanding, by Cooper's standards, that he considered them impossible. Even though, I repeat, these results were measured by Cooper's own people, using testing protocols determined by Cooper himself. Outstanding degrees of cardiovascular improvement that were produced by very brief, but very hard, exercise performed using Nautilus machines, with no so-called aerobic exercise of any kind. Potential results that were ignored by Cooper at the time and still remain ignored, even unsuspected, by the vast majority of scientists even today.

BJ: What thoughts do you have about exercise scientists and the research community in general?

AJ: Once the scientists began to realize that they could get their greedy hands on more money, in the form of research grants, then the stampede started and thousands of people who previously had no slightest interest in exercise, and less than zero knowledge about it, started trying to get grants of money from anybody that had any and was foolish enough to give some of it to a bunch of outright quacks, supposedly scientific researchers who usually went to great lengths in their attempts to assure the party putting up the money that the results of their research would "prove" whatever it was that the guy supplying the money wanted. The inevitable result being, of course, a literal flood of supposedly scientific papers that fall into an area somewhere between stupid and criminal. Nevertheless, when any such outright bullshit gets published in a supposedly scientific journal, which it frequently does, it is then accepted as proven fact by almost all scientists and a large number of other idiots.

While even a casual look around makes it obvious that very real improvements have been made in many fields during this century, it does not follow that many, if literally any, of these improvements have resulted from the efforts of scientists; in fact, almost without exception, the greatest improvements in almost all fields have resulted from people like Henry Ford, the Wright Brothers, Einstein, Tesla and a long list of others who not only were not scientists in any sense of the term but generally had little or nothing in the way of a formal education. In the field of exercise physiology, to the best of my knowledge, scientists have contributed literally nothing to our knowledge of the subject apart from dozens of utterly stupid theories and a few worthless and dangerous practices.

BJ: What discoveries did you make in exercise (i.e., internal muscular friction), and which are currently being ignored and which appear to be somewhat/generally accepted?

AJ: Apart from the much earlier work performed nearly a hundred and fifty years ago in Europe by Dr. Gustav Zander, work that I was unaware of until long after I had discovered many of the same things that he did (things like the need for direct resistance, rotary-form resistance, variable resistance and balanced resistance) I have been unable to find any proof of any actually meaningful contributions to the field by anybody else.

Again with the one exception of Dr. Zander, it does not appear that anybody ever even attempted to apply the simple laws of basic physics to the design of exercise equipment until I came on the scene. That being the case, I suspect, because nobody really understood muscular functions, and, secondly, because a lot of people were producing what appeared to be good results by using barbells and other pieces of then conventional equipment. Thus, to most people, it probably did not appear that a need for better exercise equipment even existed.

When I first became seriously involved with exercise, more than sixty years ago, it did not take me long to learn that training with barbells was by far the best method for increasing strength and muscular size; and I learned this from personal experience and in spite of the fact that the vast majority of scientists were then convinced that barbell training was both worthless and dangerous; lifting weights, they said, would make you "muscle bound," slow, clumsy, ruin your heart, rupture you and make it impossible for you to perform well in any sport. Any muscles that you did develop, they believed, would be worthless for any purpose and would quickly turn to fat if you stopped training. And, to this very day, many people still firmly believe some or all of those utterly stupid superstitions.

"But surely," you might say, "the scientists now know everything that there is to know about exercise, right?" Wrong; the number of scientists who know literally anything of value about exercise are equal to the number of thumbs on your left ear. Zilch, nada, izeko (which is Zulu), or as the British say, sweet fuck all. If you are seriously interested in exercise then forget the scientists, they can tell you nothing of any slightest value. If you ever do manage to learn anything of value about exercise you will do so in the only way possible, by the application of a bit of common sense and from personal experience; learning from trial and error. If it appears to work, do it, but if it fails to produce almost instant results then try something else. Which is exactly how I learned what I know about exercise, none of which I learned from anybody else; what I did learn from other people was that their ideas were utterly stupid.

As it happens, I was also the first, and still one of the very few, people who understand the significance of muscular friction; without which clear understanding it remains impossible to understand much if literally anything about muscular function.

And, as it happens, I was also the first, and still the only, person who ever produced tools capable of meaningful measurements of any human functional ability: MedX medical machines, developed by me, can accurately measure muscular strength, muscular endurance, and ranges of joint movement, and no other tool that ever existed can measure any of these things.

Along the way I also discovered the existence of and the unavoidable results of stored energy; another factor that must be understood in order to evaluate human functional abilities, but yet another factor still being ignored by the scientific community.

Insofar as just how many people, or what percentage of people who have an interest in exercise, are even aware of any of the above-listed factors is concerned, I do not even have an opinion; but I strongly suspect that it is damned few. And if I based my opinion on what I have read in various muscle magazines and supposedly-scientific journals, Then I

would have to say NOBODY. In fact, when any of these factors are even mentioned, any such mention usually consists of an attempt to ridicule either me or my ideas, and I have yet to read literally anything that indicated that the author even understood any of these factors. The one exception to this being Ken Hutchins, who, when he mentions me, as he does in practically everything he publishes, and when he is not attempting to ridicule me, devotes most of his statements to outright lies giving himself full credit for some of my discoveries.

BJ: Since we're on the topic of Ken Hutchins, there seems to be great confusion about his and your relationship. Provide us the background of Ken's work history with Nautilus and MedX (he supposedly suggested the counterweight mechanism on the MedX machines), and approximately the number of hours you spent in his presence. Considering the various quotes Hutchins provides in his newsletters and website, it would seem that he spent several hours for several months in your company.

AJ: Regarding Hutchins, and with no attempt on my part to answer your questions in any particular order, I will only add that Hutchins appears, to me, to be a pathological liar; having known him for at least fifteen years, I have not, in fact, ever associated with him, and he has never been even indirectly involved with any of my work. During the years that I operated Nautilus, insofar as I am aware, he never even visited our prototype shops, and he certainly was not involved in the development of any Nautilus equipment. Quite a few people have been involved in the development of MedX equipment, but Hutchins was not one of them. Again, as far as I am aware, Hutchins has never even visited the MedX prototype shops, and we certainly never learned anything from him or used any of his ideas.

BJ: I don't believe you have received the recognition and respect you deserve regarding your work in exercise and rehabilitation (Arthur definitely should have won the Nobel Peace Prize in Medicine with his contribution of the MedX Low Back Extension machine). Obviously you have come up against much opposition and frustration.

AJ: A long list of people all over the world have followed a pattern that seems to be stamped into the genes of many people: IGNORE, RIDICULE, ATTACK, COPY, STEAL. Upon becoming aware of my work they initially ignore it, hoping, I guess, that it will go away; then, when it does not go away, they try to kill it by ridicule; next they attack both me and my ideas as insane and dangerous; and, eventually, they attempt to copy my work; then, finally, they suddenly remember that all of my ideas actually originated with them.

It has been said that . . . "Imitation is the sincerest form of flattery." Perhaps, if the people doing the imitating are honest enough to admit that they are copying your work, which they seldom do. Arrogant as the following statement will unavoidably sound, it nevertheless remains true . . . "In the history of the world, only three people have made meaningful contributions to the development of exercise equipment: FIRST, whoever invented the barbell, SECOND, Dr. Gustav Zander, THIRD, me and a short list of people working under my direct supervision." Quite a long list of people have simply attempted to copy my work, usually with no real understanding of it, while a few others have taken firm steps in the wrong direction by developing equipment that was either worthless or dangerous, or both.

BJ: Although I'm not an expert in strength curves, it has been suggested that the Nautilus curve is more true or exact than that of MedX — that the MedX cam was altered so as to have less friction, yet provides less tension at the most contracted/top position. Can you address this issue?

AJ: Nautilus strength curves were developed at a time when it remained impossible to measure muscular strength and were based upon my educated guesses, while MedX strength curves are based upon presently existing firm knowledge of what normal strength curves actually are and upon our knowledge of what they are capable of becoming. This knowledge is unique and resulted from more than twenty years of continuous research coupled with the expenditure of more than $100,000,000.00 of my own money, together with the use of the only equipment capable of measuring muscular strength, MedX equipment.

BJ: Do you believe you would be more content now if you followed a different path, and what would that path have been?

AJ: I cannot change the past and thus do not worry about it, and I learned long ago that any attempt to anticipate the future is an exercise in futility at best, so I don't worry about that either. The only thing that I can say with any real confidence is that things will get a lot worse than they now are, hard as that may be to imagine. Once the government

and its "experts" get their hands on the reins of power, as they now have, you can be damned sure that anything of value that now exists will soon be destroyed. Read your history and then don't be surprised when you see it repeating itself.

BJ: Finally, Andrew Baye of the Super Slow Exercise Guild wrote an article that was posted on various websites entitled, "Isometrics, Time Contractions....". In it there is a subsection entitled, *"The Myth of the Position of Full Muscular Contraction."* Do you wish to comment (I provided Arthur a copy of the passage, which covered the following points: 1. It is incorrect that the position of full muscular contraction stimulates or contracts all the fibers in a particular muscle; 2. One can never simultaneously contract all the fibers in a given muscle regardless of position; 3. A maximal contraction refers to recruiting all of the motor units or groups of muscle fibers one is capable of; 4. Maximal fiber recruitment is not dependent on maximal muscle shortening; 5. A muscle can contract with the same amount of force mid-range as it can when fully contracted; 6. Although force may differ in those two positions, the actual force of muscular contraction — and fiber recruitment — would be the same.)

AJ: Here's my response to yet another in a seemingly endless list of stupid statements. If, as this idiot would have you believe, both the number of involved fibers and the resulting force of contraction are the same regardless of the relative positions of the involved body parts, then I can only suggest that he is either unaware of or fails to understand a few very simple principles of basic physics. And, if his utterly stupid theory is valid, then why not exercise all muscles only in their fully-extended position? Why bother to move at all?

As I have pointed out repeatedly in the past, it is impossible to understand anything that you cannot measure; and thus it unavoidably follows that you cannot determine the results of any action until you can accurately measure any such results. And, since it is simply impossible to measure the actual force of contraction produced by any muscular function, and also impossible to measure (count) the number of muscular fibers that are involved, it also follows that this man's stated opinions are based purely upon outright speculation, with absolutely nothing in the way of supporting evidence.

Without a single exception, up until about eleven years ago all of the many hundreds of theories that have been published in supposedly scientific journals during the last couple of hundred years on the subject of muscular function have been nothing short of outright bullshit; because every single one of the authors of these papers were speculating about things that they could not measure and thus did not understand. Which is why, I suppose, that so many of these self-appointed "experts" were so quick to jump on the bandwagon of Isokinetics as propounded by Cybex; failing to note that a Cybex machine is incapable of measuring anything, and also failing to note that Isokinetics, as a style of exercise, is very dangerous and almost worthless for any purpose.

As of about eleven years ago, then already having devoted about twenty years of continuous research and development efforts, together with an expenditure of more than $40,000,000.00 of my own money, to attempts to develop tools that could accurately measure human functional abilities, strength, muscular endurance and ranges of joint movement, we eventually developed the first, and still the only, tools capable of providing the desired functions.

Now, eleven years and another $60,000,000.00 later, we now have the first, and still the only, meaningful data related to human functional abilities. While even we cannot measure the results of muscular functions in all of our muscles, we can measure these results in all of the most critical muscles in the body, the muscles of the lower back, the neck and the knee.

And just what, if anything, does all of this data from literally hundreds of thousands of subjects tell us about the importance of training performed in a position of full muscular contraction? It tells us very clearly that the results of exercise are influenced to a very great degree by the position of the involved body parts, and that truly "full range" results can be produced only by full-range exercise. It is even possible, as we have clearly demonstrated with literally hundreds of test subjects, to lose strength in one part of a range of motion while gaining strength in another position when the subject uses only limited-range exercise.

More than forty years ago, when I was training only with barbells and other conventional exercise equipment, I could never manage to "pump" my upper arms by more than a half of an inch; but, years later, using only one set of an exercise for my triceps muscles performed in the position of full muscular contraction of the triceps, I was able to pump my upper arms by as much as one and one-quarter inches, with no biceps exercise of any kind.

Secondly, since no conventional exercise for the biceps muscles provides any resistance at all in the fully-contracted position of these muscles, we were not surprised to discover that every single one of the advanced bodybuilders that we tested proved to be very weak in the fully-contracted position, regardless of how strong they might be in other positions.

With the use of highly sophisticated CADCAM (Computer-aided design) equipment, it is possible to measure the actual degree of contraction that occurs in a muscle as movement of the related body parts is happening. A careful look at what occurs with the muscles that bend your lower arm around the axis of the elbow produced the following somewhat surprising results: during the first 90 degrees of rotational movement around the elbow axis, starting with a straight arm and ending with the arm bent 90 degrees, we found that the muscles contracted (reduced their length) about nine times as much in one position as they did in another position. Simultaneously, the "angle of pull" of the muscles changed to such a degree that the effectiveness of the force of contraction increased by several hundred percent. In effect, in one position the force was almost entirely wasted since it was pulling in a "wrong" direction, while in another position none of the force was wasted. Thus you have two critical factors that influence the resulting output of torque produced by the force of muscular contraction.

In most human movements, however, force produced by several different muscles is involved in the movement, and it is then simply impossible to determine just what each of the involved muscles was doing. In spite of the many articles published on the subject in recent years, EMG measurements tell us something less than nothing. Nearly thirty years ago, we produced EMG readings by manipulating the body parts of a dead man, which gives me good reason to believe that his muscles were not contracting. That being the case, then just what were we measuring? Friction.

But, then, the self-proclaimed "experts" in this field are not even aware that friction occurs in muscles, this being true in spite of the fact that the existence of friction in muscles can be demonstrated to the satisfaction of a retarded goat. So I will add only this: until and unless you clearly understand the effects of friction in muscular functions, it will be impossible for you to understand literally anything about muscles.