

# My First Half-Century in the Iron Game

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About twenty years ago, approximately four years after I founded Nautilus, a young man came up to me at a convention of coaches where we were exhibiting our exercise machines and asked me why I was opposed to training with barbells. Whereupon, I said ... "I am not opposed to training with barbells; I have never said anything against barbell training. Compared to any earlier tool intended for the same purpose, a barbell is practically a miracle; but it does not follow that a barbell is a perfect tool. My machines are nothing more nor less than improved barbells."

Personally, I trained with barbells for nearly thirty years before any actually good exercise machines even existed; I am, however, violently opposed to some of the ways in which barbells have been used, or misused. Properly used, a barbell can be, and should be, a very productive and safe tool; but if used improperly, as it frequently is, it can be dangerous. And, of course, the same thing is true in regard to exercise machines.

Regardless of your purpose, you must have a tool that is capable of providing you with the ability to do what you are trying to do; but having a good tool is not enough, you must also know how to use that tool properly, and must also know what to avoid. Don't try to drive nails with a saw, or cut wood with a hammer.

During the Second World War I visited a gym that Vic Tanny was operating in the basement of a building in Santa Monica, California, in addition to a lot of dumbbells and a few barbells, it had a boxing ring, a squat rack, an overhead pulley with a rope for doing rowing exercises, a very crude leg-press machine and a few benches. When I went into the toilet I found that they had no toilet paper, and when I mentioned that to Vic he told me that it was hard to get toilet paper because of the war. So, a few days later, I sent him a couple of cases of toilet paper that I got on a military base. Later, in the fall of 1947, I stayed in Santa Monica for a couple of months and trained in Vic's gym.

A few years afterwards, Vic opened a chain of health clubs all over the country and he was largely responsible for the later growth of the health club industry; but I did not see or talk with Vic again until about thirty-five years after I left Santa Monica in 1974, although I did speak briefly with his son at the Mr. America contest in 1970 and he refused to tell me how to locate Vic. Vic, for reasons of his own, had dropped out of sight for a period of quite a few years. Then, in the early 1980s, out of the blue with no advance notice, Vic showed up at my office in Lake Helen, Florida; and the first thing he said was ... "Arthur, I have been telling people for more than thirty years about the gains that you made while training briefly in my gym in Santa Monica; I have never seen anybody else who gained as much, or gained as fast, as you did. And I am sure that everybody else who was there at the time still remembers it."

Many other people, in many places, who have seen the results that I produced when I trained were also surprised and very favorably impressed by my results; but I was never satisfied with my results, in spite of other people's opinions, I always believed that I could produce even better results if I could manage to learn more about the actual cause and effect relationship of factors that are involved in exercise.

Prior to the Second World War, very few people in this country trained with weights, and the ones that did train used workouts that were very brief by today's usual standards; usually trained three times a week and performed only one set of each of about a dozen basic exercises. But, nevertheless, quite a number of outstanding physiques were produced by these brief workouts, and without the use of any drugs, with no food supplements or even vitamins. Near the end of the war, an Army captain named Woodrow Marriott asked me to help him gain some weight because he was about to be discharged as a result of his weight, 120 pounds at six feet. He had been in the army twelve years and wanted to stay in, but could not stay in unless he increased his weight. Training under my supervision, training very hard but very briefly, he gained more than seventy pounds of muscle in about five months; apart from the exercise, the only thing else that he did was to start drinking a gallon of buttermilk a day in addition to his usual diet. His wife was out of town when he started training and did not see him at all during the first four months of his training, then literally did not recognize him when she did see him again.

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I lost touch with Woodie after the war and have not seen nor heard from him for nearly fifty years; he was from Jacksonville, Florida, and if he is still alive would be well into his 80s now; if anybody reading this knows anything about him I would certainly appreciate hearing from them.

So while I am certainly not opposed to training with barbells, I am clearly aware of several problems with barbell exercises, and am also aware of several barbell exercises that are dangerous. If you are interested in competitive weightlifting, then you must use a barbell in order to develop the skill required for such lifting; and you must perform lifts that are dangerous, are dangerous because they involve sudden movement that imposes very high impact forces on your body.

But if, instead, you are interested only in increasing your muscular size and strength, then such sudden movement should be avoided like the plague; fast or sudden movement during exercise does not produce fast muscles, or stronger muscles, or bigger muscles, it produces only one thing, a thing you should be trying to avoid, it produces injuries. The next time somebody tells you to move fast during exercise, smile and walk away because you are talking to a fool; if in doubt about the best speed of movement during exercise, try doing it slower rather than faster; faster is never better, is usually worse, and is frequently dangerous.

Movement without resistance is not exercise and will do nothing in the way of stimulating increases in muscular size or strength; for benefit from exercise you must have resistance, and the resistance must be high enough to require your muscles to work hard. Exercise does not “produce” increases in size and strength, instead it “stimulates” such increases; up to a certain point that is dictated by genetics, your body can (and if properly stimulated will) increase both its size and strength. But any such changes are a result of a response to a “perceived need;” that is, the body will grow only if it appears to be necessary, and it bases its opinions about future needs upon recent use of the body. If you don’t use it; you are sending a signal to the body that you don’t need it; but if you use it at a level close to its maximum ability, then will send a signal to the body that will stimulate growth. The body apparently tries to maintain a certain amount of reserve ability, seemingly wants to be able to do whatever you ask it to while not actually working at its true level of ability; apparently tries to retain some reserve ability for emergency use.

So it comes down to this: Which tool is best for exercise? Which exercises are best? How many times should I exercise each week? How many sets of each exercise during a workout? Which style of performance is most productive, and safest? How fast should I move during each repetition? How much rest between exercises is best? All of these being questions that people have been arguing about for more than fifty years; and will probably be arguing about fifty years in the future. And there is room for such argument, because just what is best for one man may not be best for another man; based upon my experience, I do not believe that anybody will ever find some “magic routine” that is best for everybody.

Over the years I found quite a few things that worked well for me, and a long list of other things that did not work at all, or worked very poorly; and when things that worked well for me were applied to other people they sometimes worked well for them also, but sometimes did not work well for other people. People are different in a number of ways: have different requirements for exercise, have more or less tolerance for exercise, require more or less rest between workouts, and certainly are vastly different in so far as what their potential for strength and muscular size is. That is: some can, and some cannot. Some can improve rather easily and quickly, but some can improve only very slowly and in return for a lot of effort.

We now understand at least some of these individual differences in people, and in a few cases know what to do about them; but some differences that are obvious are still not understood.

The first requirement for trying to discover an ideal exercise program is providing the best possible tool for exercise, and I have been working in that direction for fifty-five years. The fact that you are performing a full range of possible movement does not mean that you are providing your muscles with full-range exercise; most barbell exercises are in fact “limited range” exercises, because there is little or no resistance during a large part of the full range of movement. Which does not mean that such exercise are worthless, but does mean that only part of the involved muscles are being exercised properly.

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The biceps muscles of the upper arms have three functions: since the biceps cross the elbow joint, they help to bend your arm around the axis of the elbow, but that is not their prime function. The primary function of the biceps is supination of the hand; twisting the forearm, in the case of the right arm, in a clockwise direction. But the biceps also crosses the axis of the shoulder joint, so it helps to raise your elbow above your head. Thus the “fully contracted” position of the biceps can occur only in one position, when your arm is bent as far as possible, is supinated as far as possible, and when your elbow is raised as far as possible. When your biceps fully contract, your hand will be behind your head; which is the unavoidable position of the hand which results from full contraction of the biceps.

Yes, bending your arms against resistance provided by a barbell, doing “curls,” will help to develop your biceps; but, not, doing so will never develop all of the biceps muscles, because only part of the biceps is working during a curl, which means that part is not being worked.

I am aware of only one barbell exercise that is even capable of providing proper full-range exercise for the muscles that are involved, and this is a relatively minor exercise that is seldom used by most people, the so-called “wrist curl” used to develop the muscles that bend your hand around the axis of the wrist. If the position of your lower arms is proper, as it seldom is, then you can provide full-range exercise for these muscles while using a barbell. And doing this exercise properly will probably add at least a full inch to the circumference of your forearms, a part of the body that is seldom as large as it should be in proportion to the size of the upper arms. Bill Pearl’s upper arms, accurately measured by me when he was in the best shape of his life, were exactly one and a half inches larger than mine ever were; but his forearms were not developed in proper proportion, were only one-eighth of an inch larger than mine have been. When his upper arm was 18 and 5/8 inches, his straight forearm was 13.5 inches. His upper arms were much larger than mine, were larger than mine could ever be, but our forearms were almost exactly the same size. Properly developed by the use of wrist curls, his forearms would probably have been 15 inches in circumference. Casey Viator, after I trained him, had an upper arm that measured 19 and 5/16 inches “cold,” while his straight forearm was 15 and 5/16 inches cold. Sergio Oliva, after I trained him, had an upper arm that was 20 1/8 inches cold, while his forearm was 15.75 inches. Both Walt Anderson and his brother Dennis had forearms that were more than 15 inches when measured cold and straight after I trained them more than twenty years ago.

Not everybody has the potential to reach that size, but even those that do have the required potential will not reach that size without proper exercise for the forearm muscles. Absolute maximum development of all of the forearm muscles require several exercises, only one of which (wrist curls) can be provided by a barbell. Full development of forearm muscles requires work for bending the hands, for extending the hands, for bending the hands to each side, for supination and for pronation of the hands (twisting the hands clockwise and counterclockwise), and gripping exercise. When all of the forearm muscles have been developed properly, then you can reach the maximum possible size of forearms that is dictated by your individual genetic potential. But very few of the largest bodybuilders ever come close to the maximum size in their forearms.

The largest muscles in the arms are the triceps of the upper arms, and these muscles have two distinct functions; the triceps straighten the arms around the axis of the elbows, but they also pull the elbows to the rear so that in the fully-contracted position of the triceps, the only position wherein all of the muscle is involved, the arm is straight and the elbow is behind the spine. Again, a barbell does not, cannot, provide full-range exercise for these muscles.

When I was “out of training” nearly fifty years ago, during the war, at a time when I had not trained at all for more than two years, I weighed 160 pounds. About thirty years later, following only a few weeks of training, I weighed 182 pounds. I have weighed 205 stripped, in muscular condition,. I reached my heaviest weight and largest muscular size in 1956; 205 pounds stripped with upper arms of 17 1/8 inches cold and with forearms that were 13 5/8 straight and cold. I had, at that time, I believe, reached the limits of my potential; larger than some, smaller than some others, but as big as I was capable of becoming.

In the next chapter, I will include drawings that clearly show relatively simple modifications of a barbell that can be used to greatly improve exercises for the forearms.