

# Nautilus Bulletin #2

# 35

## Advanced Training

In Bulletin Number 1, the so-called "Total Tonnage" theory was discussed, and I pointed out the outright stupidity of the thinking behind this theory. According to that theory, the "value" of a workout can be determined by adding up the "total tonnage" lifted; for example – ten reps with 100 pounds in the curl would total 1,000 pounds lifted, added to ten reps with 200 pounds in the squat (2,000 pounds) would give a total tonnage of 3,000 pounds in the workout.

Which, of course, is outright hogwash – since it is easily possible to lift an enormous "total tonnage" while doing nothing worthwhile – and just as easy to perform a very productive workout that involves very little "total tonnage". Secondly, according to that theory, ten reps with 100 pounds are exactly equal to two reps with 500 pounds – which is obvious nonsense; the "work performed" would be equal – but the power required and the results produced would certainly NOT be equal.

However – in spite of the totally invalid thinking involved in that theory – there is a lesson to be learned from the basic physics of the that theory, if ALL of the factors are considered. In the total tonnage theory, all of the factors were NOT considered – resulting in invalid conclusions – but in the following example, we will consider all related factors. And since the unavoidable conclusions resulting from such consideration are of particular importance to advanced trainees, I would suggest that every effort be made to understand the following example.

Let us assume, for this example, that you weigh 160 pounds in muscular condition – and that you have a 15 inch upper arm – and that you can curl 100 pounds for 8 reps in perfect form. Let us also assume that you are training three times weekly – and that you are performing four sets of curls in each workout. We will ignore the rest of your workout, since one example of the curl will be enough for explanation purposes, and since considering the entire workout would merely confuse the issue.

During workout No. 1 you perform as follows. . .

1st set 8 reps with 100 pounds total 800 pounds

2nd set 8 reps with 100 pounds total 800 pounds

3rd set 7 reps with 100 pounds total 700 pounds

4th set 7 reps with 100 pounds total 700 pounds

grand total 3,000 pounds

And since you moved the weight vertically a distance of 2 feet during each repetition, we will multiply the 3,000 pounds by 2 feet – giving us a "total of work" of 6,000.

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A while later, during workout No. 7, you perform as follows. . .

1st set 9 reps with 110 pounds total 990 pounds

2nd set 9 reps with 110 pounds total 990 pounds

3rd set 8 reps with 110 pounds total 880 pounds

4th set 8 reps with 110 pounds total 880 pounds

grand total 3,740 pounds

Or a "total of work" of 7,480.

It will be noted, at this point, that you would be performing almost exactly 25 per cent more work during the seventh workout than you were during the first workout.

Yet, later, during workout No. 25, your perform as follows. . .

1st set 10 reps with 125 pounds total 1,250 pounds

2nd set 10 reps with 125 pounds total 1,250 pounds

3rd set 9 reps with 125 pounds total 1,125 pounds

4th set 8 reps with 125 pounds total 1,000 pounds

grand total 4,625 pounds

Or a "total of work" of 9,250.

Up to that point, your growth may have been fairly rapid – and in the meantime, your bodyweight may have increased to 175 pounds, and your upper-arm to 16 inches; but then growth stops, or becomes very slow. Because, at that point, you have reached the limits of your recovery ability. During the first few workouts, your strength level was such that your "total of work" never exhausted your recovery ability entirely – and thus rapid growth was possible, and occurred. But, later, when your strength level was higher, your larger "total of work" finally reached a point where it exactly matched (or closely approached) the limits of your recovery ability. Whereupon, growth became literally impossible – or slowed to a snail's pace. You were simply working "too much".

The answer is NOT a reduction in the weight used – no amount of light work will stimulate muscle growth; instead, the answer is perfectly obvious, REDUCE THE NUMBER OF SETS. If you had done only the first two sets of workout NO. 25 (instead of four sets), then the "total of work" would have been only 5,000 – instead of the 9,250 produced by four sets; your recovery ability would NOT have been exceeded (or entirely used up) and growth would have resulted, fast growth.

The lesson to be learned from this simple example should be obvious to almost anybody – but in fact, most bodybuilders act as if they firmly believe that an exactly opposite state of affairs exists; advanced trainees require LESS training than beginners – NOT MORE, LESS.

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Beginning trainees gain faster than advanced trainees in almost all cases for a very simple reason – simply because their strength levels are such that they don't entirely use up their recovery ability in each workout. Later, when they get stronger, they DO use up all of their recovery ability – and growth stops.

Certainly the limits of your recovery ability increase – or, at least, they should – but there will always be a limit, a limit that must not be exceeded, nor even closely approached.

A beginning trainee in good health will almost always produce a fairly good rate of progress on a program of four sets of twelve basic barbell exercises – but later, he will do much better on only three sets of each exercise –and yet later, he will find growth impossible if he does more than two sets of the same exercise. Eventually, he may have to reduce the number of basic exercises to only eight, while still doing only two sets of each exercise; and finally, he may have to perform only two weekly workouts of two sets of each of eight basic exercises. Thus, in practice, as he becomes larger and stronger, he may have to reduce the number of weekly sets from 144 to 108 –then to 72 – then to 48 – and finally to only 32 weekly sets. In the end, he will be doing less sets weekly than he was performing during each of his starting workouts.

There will, of course, be some individual variation – but only within certain limits, and the basic principles remain valid in ALL cases.

However – do not misread the above to mean that I am suggesting that even a beginner SHOULD perform forty-eight sets in each of three weekly workouts; I merely said – and I clearly meant – that most healthy beginners can actually "stand" more sets than more advanced trainees. In best practice, beginners should start out fairly light, then gradually increase the number of sets, but they should eventually reverse the process – actually reduce the number of sets, and-or the number of exercises, and-or the number of weekly workouts.

If constant efforts are made in the direction of true progress, if you try to do more reps in each set of every exercise, and if you always increase the resistance in proportion to your strength increases, then growth can be, should be – and in most cases, will be – very fast; not fast only for beginners, but fast for anybody, regardless of his existing level of strength or muscular size, right up to the top level of momentarily-existing potential.

With some few notable exceptions, advanced bodybuilders as a class are certainly an odd group – to say the least; having far too many quirks in common, sharing too many common misconceptions – far from being the "experts" they consider themselves to be, they possess less actual knowledge in regard to their chosen activity of weight-training than is contained in a brief, simplified outline of progressive resistance exercise intended for a rank beginner. Assuming, of course, that such an outline wasn't written by an advanced bodybuilder – in which case, it is probably worthless, hopelessly confused, stuffed with outright nonsense.

But a lack of actual knowledge – and-or a belief in outright myths – is not the only characteristic of the average advanced bodybuilder; fear, self doubt, a hesitant approach to almost everything, a sometimes fairly well concealed cauldron of boiling emotions, an outright (but strongly denied) conviction of personal inferiority – these and similar character traits are very commonly encountered in the ranks of advanced bodybuilders. In almost all cases, bodybuilding is rudely pushed into a resented second place –many such people would train twenty-four hours a day, seven days a week, if they could, most such people would do nothing in the way of worthwhile work if they could possibly avoid it, almost all such people restrict their interests and limit their conversations to bodybuilding activities.

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Then, having reached the "top" – as only a very few bodybuilders ever do – most such people are surprised to find that there is nothing there, no rewards, no applause, literally NOTHING. Average people look upon them as freaks, most girls avoid them or ridicule them, nobody outside a very narrow circle of close associates has any respect for them – so, was it worth the price?

Apparently many thousands of young men – and many men not so young – seem to think so, because they keep trying, following the same path to nowhere, heeding the same lies, paying attention to the same worthless advice, believing the same myths; and the pitiful part of it is that the very goal they are seeking can be reached much more quickly without any of the sacrifices that most bodybuilders impose upon themselves. But since I don't honestly think that I can reach many – if any – advanced bodybuilders through the medium of the written word, and since it is very difficult to reach them even when given an opportunity to communicate with them in person, I consider almost all advanced bodybuilders lost causes – men doomed to continue in ignorance, fated to run their hearts out on a treadmill of mistaken beliefs.

By the time they do reach the top bodybuilding circles, most such men have wandered too far astray to find their way back to actual sanity – even if offered a guiding hand of fact; which is not meant to imply that advanced bodybuilders won't listen to new ideas (ideas new to them) – on the contrary, most advanced bodybuilders are anxious to hear all of the details of any idea that even appears new to them. But having heard it, perhaps having discussed it or read about it for months in all possible detail, they will seldom try it – or if so, impose their own restrictions, their own "changes", so that in practice the idea is not being tried at all.

Regardless of how often you tell an advanced bodybuilder that, for example, ". . . you must NOT do more than two sets of this exercise in each workout," he will still be tempted to do from four to ten sets; and if left to his own devices, WILL do from four to ten sets – then, later, will claim, and will probably honestly feel, that he tried the suggestion, but that it didn't work for him. When, in fact, he hasn't tried it at all.

It takes most advanced bodybuilders several years of almost constant training to reach the top – and having done so, they then look upon their own training routine as being ideal; nor do they even seem to notice that literally dozens of other trainees in the same gym are following exactly the same routine – with little or nothing in the way of results. Where one man eventually produces results – dozens of others do exactly the same thing, train the same way, train the same amount, follow the same diet, use the same drugs – BUT FAIL.

If a training method is actually productive, then it doesn't work for only one man out of dozens, or even thousands – a good training method will work well for almost anybody; the degree of final results will largely be determined by individual potential even when a good training method is used – but progress towards the muscular size-strength limits imposed by individual potential can be, should be, and with an actually good training method and routine will be very rapid, in all cases involving healthy individuals.

Within a year of the first widespread availability of the new Nautilus training equipment, it is already apparent that most advanced bodybuilders simply refuse to use this equipment in accordance with the very carefully stated instructions; there are exceptions, of course, and almost all of the people who are using the equipment properly are making literally spectacular progress, the best progress they have ever experienced – but most advanced bodybuilders use the equipment exactly as if it was a barbell. Which might not be so bad if they even knew how to use a barbell properly – which they don't, using a barbell far too much, far too often, and not "hard enough".

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For the above reasons and for other reasons, I will not outline detailed training programs for advanced men – knowing, as I do, that few if any advanced bodybuilders would even bother to try such suggested programs, and that probably no single advanced bodybuilder would actually try it in the manner described; instead, most of them would do "three times as much," at least "twice as often as they should," and would not train "hard enough", and afterwards would complain that they tried it, but that it didn't work.

But I will point out the fact – and it is a fact – that any advanced bodybuilder who is using a total of much if any more than 90 sets a week is training too much, and that most people will gain best on a training routine of 50 sets a week, or less.

And I will also point out the fact that any set that stops much if any before a point of muscular failure is a wasted set – will do little or nothing to stimulate growth, but will exhaust part of the recovery ability and thus make growth more difficult.

But in the meantime, scattered all over the country, at least a few hundred advanced bodybuilders are training "right" – and the word of their progress is gradually spreading; within another year, a few thousand trainees will be training properly – then tens of thousands. But even fifty years from now, many advanced bodybuilders will still be beating their brains out with twenty or thirty weekly hours of training – still not aware that only ten per cent of that amount of training would actually produce far better results.