

Nautilus Bulletin #2

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The Sixth Step

There is apparently a definite (but unknown) limit to the degree of disproportionate muscular development that the system will permit; thus "any growth" somewhat produces "some growth" everywhere. In Bulletin Number One, I termed this factor "indirect effort." While it is certainly possible to build a rather large degree of disproportionate muscular size – the most commonly-encountered examples being bodybuilders with fairly large arms and proportionately small legs – there is, nevertheless a limit to such possible disproportion.

Heavy exercises for the arms will, while building the muscles of the arms, indirectly stimulate a smaller degree of growth in the entire body, even in the legs; and I am not referring to growth that may be caused by the slight involvement of the leg muscles in exercises intended for the arms –instead, it is the actual growth in the arms that stimulates a lower order of growth throughout all of the other muscular structures of the body. It appears that this indirect effect is primarily determined by two factors –the size of the muscle mass that is growing, and the location of the muscle mass that is growing; the larger the muscle mass that is growing in response to exercise, the greater the degree of indirect effect – and the closer another muscle is located to the muscle that is growing in response to exercise, the greater the degree of indirect effect.

At least part of this result is undoubtedly due to the interrelationships of muscular function mentioned in an earlier chapter, when a muscle is involved in an exercise without you being aware that it is; but such an explanation cannot account for all of the results of indirect effect –when, for example, the muscles of the legs grow as a result of a program of training restricted to chinning movements for the arms and torso muscles, or when the arms grow as a result of a training program limited to squats.

It is my belief that an as yet unidentified chemical response is produced by heavy exercise – a response that does not occur at all when the intensity of effort is below a certain (but unknown) percentile of momentary ability, but that does occur as a result of exercise with an intensity of effort beyond a certain level, a level that obviously changes as growth occurs; all of the available evidence seems to exclude any other possible conclusion – because growth certainly is NOT produced in proportion to the "amount" of exercise. Exercise below a certain percentile of the momentarily-existing level of ability will produce no increases in size-strength, regardless of the amount of exercise; if a subject is in very poor condition – with below average tonus in the major muscular structures – then low-intensity exercise will eventually restore normal tonus, and will result in a slight increase in strength with little or no increase in muscle mass, but such low intensity exercise will never build significant size-strength.

And the actual level of such low-intensity exercise is always a relative matter – thus it is clear that the factor of importance is the percentile of momentary ability, rather than the actual level of performance; in effect, squatting with 100 pounds might be heavy enough work to produce very fast growth in one individual, a very weak individual – but for a man like Paul Anderson, it would be so light that no amount of such exercise would produce any increases in size-strength in his case.

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Secondly, it seems that there is a definite "break-over" point – a point below which growth will not be stimulated, and above which growth will be stimulated; and having passed above that break-over point in the required intensity of exercise, the results then seem to increase in a geometrical fashion. In effect (using purely arbitrary figures for the following example), it seems that an intensity of effort below 70 per cent will produce nothing in the way of growth stimulation – while a level of 80 per cent will produce "ten units of growth stimulation" – and a level of 90 per cent will produce "one hundred units" of growth stimulation – and it apparently follows logically, that a level of 100 percent of possible intensity is required for producing maximum-possible growth stimulation.

It may well be true that a level of intensity "somewhat less than 100 per cent of the momentarily-possible level" is all that is required to produce maximum-possible growth stimulation; but even if that does happen to be the case – and I personally feel otherwise – it is obvious that any such difference in the required intensity of effort and an outright 100 per cent intensity of effort is of no significance, and impossible to determine in any case.

And even if it should be clearly proven that all that was required for maximum-possible growth stimulation was a level of intensity of, for example, 95 per cent of momentary ability – just how would you propose to use such information? How would you know that you actually were working at a level of 95 per cent – instead of 90 per cent, or 85 per cent? How would you measure it?

But you CAN MEASURE 100 per cent – quite easily by simply going to a point of utter failure.

By this point it should be obvious that an intensity of effort anything less than outright 100 per cent effort is probably a mistake, and that much less is a major mistake – with no "probably" about it; and that, in any case, since it is impossible to measure any degree of effort less than 100 per cent, the only way to be sure that you are working hard enough is to go all the way.

But in any case, regardless of the required intensity of effort, it certainly is obvious that heavy work for the larger muscle masses will result in large-scale growth in those muscles – and a lower order of growth in all of the muscles of the body; it is my belief that this occurs as a result of a chemical reaction which results only from heavy exercise – a reaction which "spills over" and affects the entire body to at least some degree.

But even with such a chemical reaction – if it actually does occur, and I have no firm evidence, only circumstantial evidence, in support of it –there still remains a disproportionate effect from exercise, and there still remains a limit to the amount of such allowable disproportion; and the implications should be perfectly clear.

For best results from exercise, all of the major muscular structures should be worked – ALL OF THEM; you certainly can build large arms without working your legs – but you will build them much larger, and much quicker, if you also exercise your legs.

And since there is a limit to the overall recovery ability, and since many of the involved chemical functions are just that, "overall" – it should be clear that daily workouts are a mistake, even when a so-called "split routine" is used, a training program providing three weekly workouts for the upper-body and three weekly workouts for the legs; because the system cannot recover properly from a hard workout in much if any less than forty-eight hours – and if a heavy leg workout occurs between each heavy workout for the upper body, then the system will never be given quite enough time for both full recovery and growth. Certainly not rapid growth.

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So now we can add the following to our list of basic points. . .

22. Faster rates of growth will result if growth is proportionate.
23. Greater overall growth will result if the largest muscular structures of the body are worked heavily.
24. Not more than three weekly workouts should be performed; three "overall" workouts.
25. A slight decrease in the intensity of effort in exercise will result in a disproportionately great reduction in the production of results.
26. It is impossible to measure relative intensity of effort less than maximum-possible (100 per cent) effort; thus impossible to be sure of the actual intensity of effort if anything less than 100 per cent effort is being employed.