

# Nautilus Bulletin #2

# 27

## The Third Step

The regulatory mechanism of the system has a strong tendency to maintain the existing situation; which is both perfectly normal and, upon examination, obviously reasonable – an actual requirement for normal living.

Regularly recurring cycles of working, resting, and eating establish a pattern that the system accepts as normal; and once having become accustomed to a particular pattern of living, the system regulates the metabolic processes accordingly. As it must do – since bodily requirements are not instantly provided in response to need; some requirements can be provided rather quickly, some others require a matter of hours, a few require as much as two or three days, or longer.

A certain percentile of reserve ability serves the purpose of providing most of the requirements in quantities sufficient for emergencies of reasonable proportions; but the after effects of emergency utilization of this store of reserve ability are clear proof that the actual amount of such reserve is very limited – while a momentary increase in usable strength may be quite high, such a level of performance can be maintained only very briefly, and afterwards the entire system will be "drained" for a period of at least several hours, and to some degree for several days.

Since the normal requirements for living cannot be supplied instantly in response to demand, it is obviously necessary for the system to be able to anticipate needs – to "plan ahead" – and just as obviously, this can only be done by basing expectations for the future upon the demands of the past; with, as mentioned earlier, a certain percentile of reserve for emergency utilization.

Upon recovery from a serious illness, the system will usually return very quickly to a level of ability closely matching that which existed immediately prior to the illness – and it will do so with little or nothing in the way of exercise or special diet, if the internal organs have not been permanently damaged; and if the organs have been permanently damaged, the system may never return to previously-existing levels of ability.

Likewise, if the level of size-strength is increased rapidly by heavy exercise – and if the exercise is terminated immediately after a period of rapid growth – the system will quickly lose all or most of the recent gains and will return to previously-existing levels of size-strength; apparently it takes a certain period of time for the system to accept such increased size-strength as normal – and until it has been accepted as normal, the natural tendency of the system will be to return to levels that it has previously accepted as normal.

In effect, the system attempts to maintain certain levels of ability – and will return to those levels if it is able to do so. Which is not meant to imply that gains in size-strength resulting from exercise will never become permanent and can only be maintained by continued exercise; to at least some degree, increased levels of ability resulting from exercise will become permanent – if the raised levels of size-strength have been maintained long enough for the body to accept them as normal. And the longer such levels are maintained, the higher the degree of permanence; in effect, if you gain twenty pounds of muscular mass within a period of a month, and then quit exercising entirely, you will probably lose almost all of the twenty pounds within a period of three or four months – but if, instead, you made the same gains within the same period of time, and then continued with only enough exercise to maintain the new growth for a period of a year, and then quit exercising entirely, your losses of size-strength would occur much more slowly; and at least part of the increase would be maintained as part of a new and larger "normal size."

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Such gains will apparently never become entirely permanent in the absence of at least enough exercise to maintain them, but the longer such increased size-strength is maintained, the higher the percentage of permanence becomes. In effect, increases in size-strength resulting from exercise are to some degree temporary and to some degree permanent; with the ratio of temporary gains to permanent gains constantly changing with time.

In the past it has frequently been stated that "fast gains produce fast losses" – in effect, that size-strength gained quickly is somehow inferior to size-strength gained more slowly; but in fact, the period of gaining has little or nothing to do with the matter – size-strength is the same no matter how it was obtained, and regardless of how long it took to produce it.

However, it may easily appear that quickly gained size is less permanent; simply because the system requires a period of time to accept such increased size – obviously, if the new size was added over a longer period of time, then the system would have more time to adjust to it, and a greater proportion of it would thus become permanent.

But if identical twins gain twenty pounds of muscular mass, with one twin doing so in a period of a month and then merely continuing enough exercise to maintain the new size, and with the other twin gaining more slowly over a period of a year, and if both twins cease all exercise at the end of the year, then the first twin – the one that gained most rapidly – will actually maintain more of his gains than the other twin will; because his system will have been given eleven full months to accept the entire twenty pounds of new growth – whereas, the second twin's system will have been given no time at all to become accustomed to the entire twenty pounds of growth, perhaps only a month to become accustomed to about eighteen pounds of it, two months to become accustomed to approximately sixteen pounds of it, and so on. In effect, the second twin's "average time of maintained size" will be lower than that of the first twin.

On the other hand, if the first twin – the rapidly growing twin – ceased all exercise at the end of his month of growth, then he might maintain only about two pounds of it five years later; and if the second twin – the slow growing one – also ceased all exercise at the end of his year of growth, then he might maintain five or six pounds of it five years later. Because, in that case, the second twin would have the highest "average time of maintained size".

But apart from such degrees of permanence – which apparently are determined entirely from the time such size has been maintained – there is no slightest difference in size-strength resulting from very fast growth or resulting from very slow growth.

Previously-existing levels of size-strength that have been lost from a total lack of exercise can be quickly regained by resuming exercise – and a level of ability that required a period of a year to build in the first place can usually be rebuilt within a period of two or three months; in this instance, it appears that the time period "out of training" is the primary factor which determines just how long it will take to rebuild previously-existing levels of ability. The longer you have been out of training, the longer it will take to rebuild previously-existing size.

It should also be obvious from the above that the system responds on the basis of expectations for the future – which in turn are based upon actual requirements of the past; and that the system constantly attempts to maintain at least a certain percentile of reserve ability for emergency utilization. And if the clear implications are understood, it logically follows that a system of training that provides constant progression is an absolute requirement; the system will respond (by growing) only when there is a requirement for growth – only when the experiences of the past indicates that existing levels of ability are not adequate to provide the requirements of the future without utilization of the reserve ability.

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If you are regularly performing exercise which forces your system to work inside the levels of existing reserve ability, then the system will increase its levels of normal ability (and, simultaneously, its levels of reserve ability) in an effort to maintain a reserve for emergency utilization; but having increased its ability to the required degree, the system will then bring growth to a halt – unless additional demands are then imposed by even heavier exercise, heavier in terms of requirements for greater power production.

Increasing the "amount" of exercise is not true progression, because (as mentioned in an earlier chapter) a muscle of any size is capable of performing almost any amount of exercise; thus progress must come in the form of greater demands for the ability to produce power – instead of trying to increase your capacity for work, you must attempt to increase your power potential. Instead of constantly trying to increase the amount of work, you must attempt to increase the intensity of work.

A properly performed set of barbell curls should always consist of ten repetitions – do not attempt to increase the number of repetitions; instead, try to increase the amount of weight being used, while maintaining or increasing the speed of movement. If the last six or seven repetitions of a set of ten curls are performed properly, then you will always fail during the last two or three repetitions – and be forced to finish the set of ten repetitions by using a slight amount of "cheat" during the last two or three repetitions; when you can perform eight repetitions in good form without cheating, then increase the weight during the next workout – but after the first three or four repetitions, each repetition should always be a maximum-possible effort, involving the production of as much power as you are capable of producing at the moment.

Such a style of training is truly progressive – and will impose constant demands for continued growth on your system; and if the system is capable of growth – if the recovery ability is not overextended by too much exercise – then growth will occur, at the fastest-possible rate in accordance with considerations of individual potential.

In practice it has been found that two such properly performed sets of each of several basic heavy exercises are usually best for promoting a fast rate of growth – and that three sets of each exercise will usually result in "overtraining" insofar as the amount of exercise is concerned and an actual reduction in the rate of growth.

It has also been found that three weekly workouts will almost always produce the best rate of progress – and in cases where actual progress is quite slow, it is usually best to perform only two weekly workouts.

In spite of the above findings, most current bodybuilders practice at least four sets of each of a wide variety of exercises – and many bodybuilders practice as many as ten sets of each exercise; secondly, there is little or nothing progressive about the training of most bodybuilders, who generally perform a given number of repetitions in each set and terminate each set at a point far below maximum-possible intensity of effort.

As an unavoidable result of such basic misunderstanding – and such a poor style of training – the rate of progress is always far below what it could have been, and what it should have been, and what it would have been with a proper style of training based upon fact instead of misconceptions.

Most of this unfortunate – and extremely widespread – misunderstanding is apparently a result of confusing "amount of exercise" with "intensity of effort," of confusing work with power; made even worse by a common overestimation of the extent of the recovery ability of the system – or a failure to realize that the recovery ability must be disturbed as little as possible if it is expected to provide the requirements for growth.

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So now we have established the following additions to our list of basic points. . .

7. The system has a natural tendency to return to previously established and accepted (accepted as "normal") levels of ability.
8. The longer a particular level of ability is maintained, the greater the degree of permanence.
9. There is no practical difference in increased levels of ability resulting from fast growth and gains produced by a slower rate of growth.
10. Previously established – but lost – levels of ability can be rebuilt far more quickly than they were initially.
11. Training programs must be truly progressive – with constant attempts to increase the power potential.
12. Two sets of each of a few basic, heavy exercises are best for promoting fast gains in strength-size.