

Starting Strength

The Phenomenology of Barbell Training

by

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In *Starting Strength: Basic Barbell Training* 3rd edition I defined the term “phenomenology” by quoting the definition of the word from the *Concise Dictionary of Physics* (Oxford: Pergamon Press, 1978, p.248): *A theory which expresses mathematically the results of observed phenomena without paying detailed attention to their fundamental significance.* My understanding of this concept has improved, thanks to my friend Nassim Nicholas Taleb, so I thought I’d share it with you.

The phenomenology related to a theory is an important step in the analysis of that theory. Another way to think about the phenomenology is as *the accumulated empirical evidence of what has actually occurred.* For example, *strength* is the ability to produce force against an external resistance. Getting stronger therefore means an increased ability to produce force against said resistance. Our theory of strength training is that if we intentionally lift progressively heavier weights, we get stronger because lifting heavier weights is only possible with this adaptation, and this adaptation does in fact occur. The veracity and robustness of this theory is demonstrated empirically every time it is tried, and all our observations generate the same trend in the data. The phenomenology associated with strength training clearly demonstrates that lifting progressively heavier objects *always* produces a commensurate increase in strength as an adaptation to the stress of having done so, provided that the physiological conditions permit recovery from that stress.

The phenomenology of strength accumulation is not concerned with the physiological mechanisms that facilitate the adaptation; those are the purview of exercise physiology. And any theory emitted by exercise physiologists that fails to account for the phenomenology can be safely dismissed. Quite simply, we know that if you lift progressively heavier weights, your ability to lift heavier weights increases progressively. Lifting the *same* weight does not produce the ability to lift heavier weights, and lifting *lighter* weight does not produce the ability to lift heavier weights. We know this because we have observed the phenomenon countless times for thousands of years, and there are no observed instances that disprove our conclusion.



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Productive discussion can take place about the details – how much heavier, how often, sets and reps, nutrition, timing, rest between sets, and nausea, but the phenomenology of progressively adding weight to the bar is rather clear about *what* happens when you do this, even if *why* and *how* remain open questions that may or may not have a bearing on the details of optimization.

I discussed the use of phenomenology as applied to the floor pull in Olympic weightlifting, because the majority of the instructional sources advise the use of a start position that places the bar forward of the mid-foot – over the ball of the foot. The ostensible reason is that elite lifters do it like this, and if the Best Lifters In The World do it this way, then this is the best way to do it.

Except that not all of them do it this way, and they never have. YouTube provides hours of video demonstrating to the careful observer that elite lifters have exactly one thing in common – they are very strong. So an appeal to the authority provided by the way “all” elite lifters pull the bar off the floor is merely poor data collection. In other words, it’s not the actual phenomenology, but rather confirmation bias. Somehow, the fact that all elite Olympic lifters are very strong (along with the idea that strength can be *trained for* as a feature of programming) has failed to make its way into the coaching manuals, whereas the bizarre idea that all elite lifters use a demonstrably inefficient floor pull seems ubiquitous.

Again, the phenomenology is the accumulated empirical evidence of what has *actually* occurred. In this case, what has actually occurred is that the strongest lifters place highest in weightlifting meets, and always have. What has not occurred is that all lifters pull the same way. Some lifters are strong enough to use a demonstrably inefficient floor pull. Most are not, because *most* lifters do not place First in meets, whether due to strength or technique, First Place being what it is. Therefore *most* lifters should both train to get stronger and learn to pull more efficiently, neither of which the majority of Olympic weightlifting coaches emphasize.

Training to get stronger would entail doing more than just snatches and clean & jerks in your workouts, along with some squats if there’s time. Training to get stronger would require *regularly programmed increases* in the weight lifted on the barbell exercises that depend on strength and not accelerative power, i.e. the squat, press, deadlift, and, amazingly enough, the bench press. Of course, you can always depend on anabolic steroids to do the strength-increase part for you, if you know how to beat the testing. But *training* for strength is usually cheaper.

Pulling more efficiently would entail starting the pull from a position of higher hips with the bar closer to the mid-foot balance point, so that proper acceleration mechanics start immediately off the floor, thus giving the bar more time to accumulate upward velocity, and therefore upward momentum. Those of you who have been to a seminar have heard the explanation, have seen the differences in the two start positions demonstrated, and know the differences in efficiency first-hand. We have found no exceptions to this mechanical analysis. Works every time, and the phenomenology of this is solid too.

But this high-hips/bar-close position must be *practiced* with heavy weights in both the snatch and the clean & jerk, because the mechanics of the pull change as the weight on the bar increases. If the lifter has not devoted thousands of reps to the skilled execution of the movements at weights heavy



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enough to win the meet, he hasn't *practiced* the movements, because practice is the repetitive execution of a movement pattern dependent upon accuracy and precision under the same conditions in which it will be *performed* at the competition. And 70% of your PR for doubles off blocks will not win a big meet.

In other words, both strength *training* and snatch and clean & jerk *practice* would first have to be understood as different components of performance, and then each would have to assume their appropriate level of priority for the lifter. This has not occurred.

So we're back to phenomenology. The Greatest-Lifters-In-The-World argument is compelling at the phenomenological level – until you figure out that it's not true by watching enough lifters very carefully.

It takes quite a bit of trust to blindly follow your coach's instructions, especially after we demonstrate to you that they are wrong. And perhaps this has something to do with the fact that the heaviest clean & jerk ever performed in a meet happened in 1988 – an interesting contrast to some other sports which have continued to progress.

Think with me now: the reason an athlete is the Greatest In The World may very well be that he is very good at doing things inefficiently, as side-arm pitchers demonstrate all season long. This amazing athlete may have simply never tried throwing any other way, since the way he is throwing now works pretty well for him. He does, after all, have a job with the Ball Club. And, after all, the travois works better than just carrying the shit around in your hands, especially if you've never seen a wheel.

Aside from the illogic involved, the actual phenomenology is quite clear, and quite valid: at the elite levels of the barbell sports, the winners are the strongest lifters.

It happens to be the case that in some fields of inquiry the peer-reviewed experimental data is of exceptionally poor quality, because, for reasons outside the scope of this essay, multivariate subjects are difficult to investigate with these rather limited methodologies. Exercise science is one of those fields. In reality, the peer-review system of publication as a whole generates huge amounts of unreproducible if not downright false data and unwarranted conclusions, and which by now comprises the bulk of what is reverently and worshipfully referred to as "The Literature." The exercise science literature is merely a lower-tier version of this very bad idea. And when you see exercise science practitioners advertise their services as "evidence-based," you are seeing the bachelors-degree version of what is actually *Scientism*, as opposed to science.

It seems to me that the best approach is one in which reason and logic direct the inquiry, in which the carefully-analyzed phenomenology is respected as a way to intelligently guide the investigation into the *what*, with *why* and *how* being within the purview of experimentation – perhaps randomized and double-blind if the subject lends itself to such an approach, but perhaps "merely" clinical. This is the way science is supposed to be done. Remember this well: *100 years of anecdotal evidence is still data*. And if, when carefully analyzed, it all points in an obvious direction different from the conclusions reached by 5 masters-degree candidates working an n=11 project about something with which they have no personal experience, the theory based on the anecdotal evidence remains unrefuted.



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In other words, if an academic tells you that there should be no difference in your 1RM bench press performed on *either* a nice firm bench or a large wobbly rubber ball, you should be skeptical.

My thanks to Taleb for his help with this essay.

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