



Enlightened Equine

Better Horse Management through Science

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Unnatural Practices

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The natural hoof is uniform in terms of its fundamental front and hind shapes throughout wild horse society, but it is also uniquely endowed with endless subtle variations in angle, size, and color that set the hooves of one horse off from those of the next.

- Jaime Jackson, *The Natural Horse*

Back in the "good ol' days" of natural hoof care, all of us practicing this specialized and then-very-uncommon form of trimming had learned it from its originator: Jaime Jackson. He'd called his technique "natural" hoof care because it duplicated the trim Mother Nature imparted on the feral horses of the U.S. Great Basin, as documented in his book entitled *The Natural Horse*. And so, applying the term "natural" to Jaime's hoof trimming process was perfectly

logical because the results of his trim were hooves that very closely resembled those of the "wild" mustangs. And horse owners could safely assume the trim their horse received from any one of his certified hoof care providers would be very much the same as the trim they'd get from any other.

Unfortunately, those days of hearing the phrase "natural hoof care" used *only* for those techniques that yield hoof forms congruous with the forces of nature are clearly behind us. It appears that "natural" is now routinely employed by many to mean practically *any* trimming style that doesn't involve horseshoes (and perhaps some that do!), regardless of the fact that most are anything but natural! These alternative trim techniques generally fall into two rather distinct categories: 1) those which use some sort of measurement- and/or template-based approach to trimming without regard for variations in individual hoof form, and 2) those which acknowledge each hoof as an individual, but deviate from natural hoof care practices in one or more aspects of their trimming. And although variations from proper trimming can be extremely problematic and harmful regardless of which group they fall into, this article will focus on the measurement-based techniques.

Whether it's trimming to specific numbers for characteristics such as toe angle and length, a particular hoof shape, and/or a fixed set of hoof proportions, the mistaken notion that there's some sort of "universal hoof form," and therefore a "universal trimming truth" which can be successfully applied to any and all horses, is certainly far from new. For example, Dr. Deb Bennett writes the following about the very influential American "Professor" William Russell and his textbook called *Scientific Horseshoeing* (7th edition, 1903):

...we find that although there is a correct grasp of anatomy, there is no real concern with maintaining normal feet. There is a concern that *masquerades* as concern for the horse....Russell's beautifully



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engraved plates *memorialize engineering ideals, not biological realities*. They show perfectly symmetrical hooves being measured with gauges - "proof positive" of the superiority of the scientific approach advocated by the author.

She goes on to add:

Constant observation opens the eyes [of farriers firmly grounded in the biology of the horse] to individual variation and compels them to respond to individual needs, rather than following...a set, "standard," or mechanical program of trimming and shoeing learned by rote and applied "by the numbers" irrespective of the needs of the individual horse. ("Principles of Equine Orthopedics", 2003)

So even in 2003, when hoof care providers who specialized in barefoot horses were relatively rare, Dr. Bennett was expressing serious concerns about the increasing popularity of trimming and shoeing methods based on numbers or ideals rather than "the biology of the horse." Many of those "by the numbers" methods she eschewed have their origins in the work of farriers Dave Duckett and Gene Ovnicek from the latter part of the last century. They (and others) attempted to correlate points on the bottom of the foot with the location and orientation of the foot's internal structures. Once these points were properly identified, they could allegedly then be used to determine "proper" hoof proportions, toe length, and breakover point by creating a sort of "map" of the bottom of the foot. However, the relationship between internal and external was apparently (but not surprisingly) tenuous, since descriptions of how to locate these reference points often contained lots of words like "usually," "approximately," and "typically!"

There's a simple, logical reason for that: as any scientist or engineer will tell you, **no physical characteristic, or set of characteristics, can be described as absolutes**. You can only talk about how close to, or distant from, a given size or shape is from "typical." Measurements of any particular physical characteristic found in nature can be found to follow a curve of normal distribution - a "bell curve" - such as the one superimposed over the hoof shown at the beginning of this article. As an example, let's look at a

summary of Jaime Jackson's hoof measurements of over 100 feral horses from the U.S. Bureau of Land Management's Litchfield, CA holding facility -

Litchfield Sample				
Hoof Measurements				
Hoof Dimension ¹	Average Size (inches) ²		Range of Sizes (inches) ³	
	Front	Hind	Front	Hind
Toe Length	3	3	2 ⁵ / ₈ - 3 ¹ / ₂	2 ⁵ / ₈ - 3 ¹ / ₂
Hoof Length	5 ¹ / ₄	5	4 ¹ / ₂ - 6	4 ¹ / ₂ - 5 ¹ / ₄
Hoof Width	5	4 ³ / ₄	4 - 5 ³ / ₄	4 - 5 ¹ / ₂

Toe-Angle Measurements		
Hoof Angle ¹	Average Angle ⁴	Range of Angles ^{3,4}
Front	54°	50° - 60°
Hind	58°	53° - 63°

1. Left or right
 2. Adult horses only (5+ years)
 3. Based on Normal Distribution (-2/+2 SD)
 4. All Ages Factored

Data duplicated from Tables 4-1 and 4-2 in *The Natural Horse* (2nd Ed.), Jaime Jackson, Star Ridge Publishing, 1997

An examination of this data gives us some useful insight into the difficulties with "template trimming," starting with the fact that, considering the large number of horse breeds and the often substantial differences between them, 100 or so measurements on a group of feral mustangs is *not* very likely to be representative of the entire range of hoof sizes and shapes to be found among equines as a species. After all, one typically sees far more variation in animal size and conformation in most boarding barns than in a group of mustangs.

And yet, even given the homogeneity of the sample group, the data in fact shows a surprising amount of variation in hoof measurements! Although it may not be obvious unless you have a working knowledge of statistics, footnote #3 above tells us that approximately 95% of the horses measured fall into the specified ranges. So, for example, the probability that the toe angle of a front hoof - one of the characteristics many "by the numbers" advocates hold to be a constant - will be any particular value can also be more fully described like this -

- <1% of horses will be less than 48°
- 2% of horses will be between 48° and 49°
- 13% of horses will be between 50° and 51°



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- 34% of horses will be between 52° and 54°
- 34% of horses will be between 55° and 56°
- 13% of horses will be between 57° and 59°
- 2% of horses will be between 60° and 62°
- <1% of horses will be greater than 62°

Quite a range of possibilities, especially given how many people think front hooves should all have the same toe angle! So if your trimmer believes that all front hooves should be, say, 53° but your horse's actual angle should be 59° - of which there is greater than a 1-in-10 chance of being true - your horse is going to have a pronounced toe-first landing. He'll therefore not only not be performing at his best, but he'll also be causing joint damage that will affect his long-term comfort and soundness. And I really need to point out that he has a greater than 66% chance of a toe angle *other than* the 53° your trimmer thinks he should have. The same concepts hold true for the other measurements as well. And that's why number- and shape-based techniques ultimately *cannot* be successful.

And yet, the use of "number-based" and "shape-based" trimming is on the rise, especially among barefoot advocates who also try to sell these as "natural" methods. But if you carefully observe the results of these trim styles, you'll fairly quickly be able to spot the problems. Two of my favorite examples...

A client asked me to give her my opinion of a YouTube video which showed a woman demonstrating her trimming technique. She carefully measured and drew a series of lines on the bottom of a pony's hoof, explaining how this "mapping" process determined exactly where to trim the hoof. After a few lines, it became obvious that she couldn't possibly safely cut the hoof at the places indicated by this method. Nevertheless, she went on to explain that although her method wasn't going to work on this hoof, it was still the "correct" way to trim hooves.

If a "method" doesn't work on 100% of hooves, it's obviously not a viable method.

A clinic participant, who was a "by-the-numbers" trimmer, showed me before and after video of a client horse that was landing acceptably before it was trimmed, but was landing

decidedly heel-first after she "correctly" trimmed it. Another example of "method breakdown;" if the horse isn't landing properly when you're done, then you didn't trim it correctly - period.

If the results of a "method" don't conform to what nature would do, it's obviously not a natural method.

So why the popularity, particularly when these techniques are so clearly in violation of the evidence provided by nature? A complete answer to that question would probably require an entire book, but I think it comes down to two primary reasons: convenience and fame.

To truly learn something *well* takes time and (usually) money. Learning is often not easy, and learning to properly trim hooves is no exception. In fact, Dr. Bennett states the following as essential skills for a trimmer or horseshoer in "Principles of Equine Orthopedics":

- Training in physical assessment
- Knowledge of the physiology of body tissues
- A concept of what is normal in stance
- Prepared to relate the principles of physics or biomechanics to his work
- Taught how to develop a long-term treatment plan

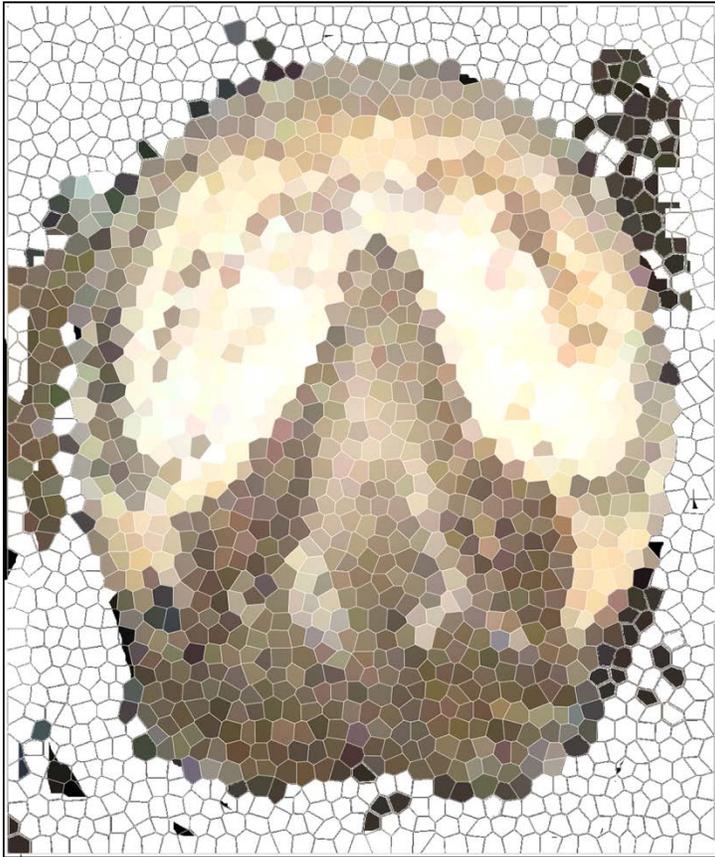
This is quite a list, and the prospect of acquiring such an extensive skill set to "just" trim horse hooves would definitely put many people off. After all, you're talking about a very serious temporal and financial commitment, and the list doesn't even include the other necessary skills such as tool use and horse handling! It's so daunting, in fact, that Dr. Bennett believes the overwhelming majority of hoof care providers lack the necessary skills to properly care for horse feet. I won't repeat the lengthy quotation here, but check out her assessment of providers' abilities in [A Matter of Conscience](#).

But imagine if, instead, you could just attend a day or two of clinics to learn how to apply a "formula" to trimming that could be used for every horse. Or watch a couple of videos. Wouldn't that be a whole lot easier and cheaper? And a lot more appealing as well, because people really take comfort in well-defined, step-by-step processes. Kind of like paint-



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by-numbers rather than art school. But will it still be a masterpiece?



And, human nature seems to be such that many people have a strong desire to be recognized for making some sort of "contribution." There's certainly nothing wrong with that. So they change one or more aspects of the natural trim, experience some amount of success with it, and all of a sudden it's a "new" trimming technique!

Why, you may ask, would they experience successes if their methods are incorrect? For two reasons. First of all, it's imperative to understand (as I've pointed out a number of times in earlier articles) that the vast majority of horses are relatively insensitive to how they're trimmed *in the short term*. Will these alternative trims affect their performance? Almost certainly, but if you've never felt the performance possible when a horse is correctly trimmed, how would you know? Will it make them lame? Probably not today, but it will affect their long-term comfort and soundness. For most

horse owners, though, if their horse isn't outright lame, they're content to believe the horse is correctly trimmed. And second, it's once again a matter of probability: statistically speaking, nearly *any* trim variation will be correct for *some* number of horses.

When all of this is considered, it's easy to understand how and why these techniques continue to surface and gain in popularity. But please remember:

- By definition, they are not "natural" trimming and should not be promoted as such.
- Statistically speaking, most of them will work on *some* horses, but they will not work on *all* horses.
- By design, they disregard the uniqueness of each hoof and the causal relationship between conformation & movement and hoof form, instead promoting the incorrect notion that trimming to a specific form or set of measurements will *cause* proper movement instead of recognizing that hoof form is the *consequence* of proper movement.

Genuine natural hoof care optimizes hoof function for every hoof as an individual by optimizing hoof form in accordance with the principles demonstrated to us by nature. This can be accomplished only through a solid working knowledge of what constitutes biological normality for the horse, the hoof, and the tissues of the hoof; and the relationship between conformation, movement, and hoof form.

And so, if you're using a hoof care provider who claims to be practicing "natural" hoof care, please do yourself and your horse a favor and check to make certain he or she is really following the principles nature has repeatedly demonstrated to be correct, and not just reaching for the protractor or the template.

And if you're a hoof care provider who's reaching for the protractor or the template, but telling your client you're providing "natural" hoof care, then shame on you...because you're not!

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About the author: Retired professor and award-winning product designer, musician, and recording engineer Steve Hebrock taught, among a number of other technical subjects, hoof care at The Ohio State University ATI for many years. He now concentrates his efforts on his



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