1

Why Do Horses (Usually) Do What We Tell Them?

Long before we rode horses, we hunted them, killed them, and ate them. In more recent times, we've developed elaborate methods to dominate them and make money from them. We've turned them into beasts of burden, starved them, beaten them, and sent them to war, even while glorifying the "noble horse" in songs, stories, and beautiful pictures. And in some cultures, we still eat them.

Given all this, it's rather remarkable that horses can ever learn to trust and willingly obey humans. Yet every foal is born curious, sociable, and trusting, ready to give his loyalty and obedience to a worthy leader, human or equine. From the horse's point of view, the most important questions in relation to his leader are very basic ones: What will happen to me? Will I have food, water, space to move around in, good friends to keep me safe? Whom should I trust?

From the human's point of view, the key questions we ask are also simple: Why shouldn't my horse step aside, pick up a foot, change leads, chase cows, cross a stream, jump, run, halt quietly, leave his friends, or walk into a trailer, just because I tell him to? But the questions we *should* ask are just the opposite: Why does my horse do any of these things willingly? What is his motivation? (In business parlance, the question would be, What's the customer's incentive?)

If you've never asked those questions, or if your quick answer is, "Because I'm the boss and I said so," then it's time to step back and think more carefully about the horse-human relationship from the horse's point of view. If your horse's obedience is the result of force and domination—not mutual trust, equine logic, and thoughtful understanding—you and your horse will never feel completely safe or comfortable with each other. And if a half-ton horse doesn't feel safe and secure, he's likely to choose one of his instinctive alternatives (run, fight, or resist), and someone may get hurt.

A Test of Trust

One day after a storm I was riding Star, my 6-year-old Thoroughbred-Appaloosa event horse, on the trails. The storm had brought down a large maple tree, and a section of heavy trunk lay about three and a half feet off the ground right across a flat section of my trail.

Although the upper branches of the tree were sprawled across the ground in a forbidding tangle to the left of the main trunk, the trail beneath it offered good, solid footing and a nice straight approach. All we had to do was jump clean through the middle section and we'd be fine. My horse was a bold cross-country jumper who'd tackled far more difficult obstacles on some tough New England courses. I was wearing my helmet, Star was wearing his protective galloping boots, and this nice, new cross-country obstacle was just begging to be jumped.

Our approach was straight, but perhaps I was the slightest bit unbalanced, or perhaps Star decided he could brush through the bushy tree branches instead of jumping the solid trunk. But the branches were not "brushable." He caught a front leg on an inflexible branch, and we somersaulted over the tree.

I found myself lying in the dirt on the far side of the tree, staring at the underside of Star's girth and the soles of his front feet. He'd flipped completely over and landed flat on his left side. Both of my legs, from mid-thigh down, were firmly wedged under his barrel. His front hooves were inches away from my right ear, and his hind feet were resting against my left shoulder. For a few stunned seconds, neither of us moved. Then my horse tried to rise, but he couldn't—my body, pinned beneath his, prevented him from rolling up onto his sternum and getting his legs under him. And I was stuck underneath him.

Four size-six horse hooves, complete with steel shoes and bell boots, were waving in the air just inches from my head.

With no real plan in mind, I grabbed a front foot in my right hand and a rear leg in my left and talked to him in a reassuring, authoritative voice. I have no idea what I said, but the tone must have been right because Star looked at me lying beneath his legs, heaved a big sigh, dropped his head, and lay quietly. He seemed to be saying, "Oh good, there's the boss, she'll know what to do." And for the next several minutes, while I developed a plan to get us untangled, he simply lay there and waited for directions.

That's negative horse training. Negative training ignores the horse's needs, desires, and logical thought processes. It creates resistance and provides the horse with no legitimate reason to cooperate, other than pain or the threat of pain.

Positive horse training, on the other hand, defines the horse-human relationship as a team, with reasonable motivations and logical rewards for cooperation. Positive horse training uses well-timed rewards to build trust and respect between horse and human. Trust and respect, after all, are two faces of the same coin; you can't have one without the other.

I decided the only way to get this big horse off of me was to use his legs as levers, roll him onto his saddle, and try to crawl out from underneath. I took a firm grip on two of his legs, front and back, and heaved him up onto his back. Star allowed himself to be rolled almost upside down, then settled back onto his side, legs outstretched. I scrambled backward, stood, and walked all around my still-prostrate horse, checking for injuries and reminding him with a quiet voice to remain still. Then I gave a gentle tug on the reins and said crisply, "Up, now." He rose and shook himself, and I led him slowly home, patting and talking and reminding him of what a wonderful horse he was. We were both stiff for a few days but otherwise uninjured.

What was so remarkable about this incident, aside from the fact that we were tremendously lucky not to break both our necks?

Simply this: Caught in a similar situation, the average horse would have descended into pure panic. The first instinct of a trapped prey animal is to struggle blindly, to get back onto his feet at whatever cost, and to flee to safety or to strike out if he can't get free. Nothing triggers a horse's survival instinct more than the feeling of being caught and unable to run away.

Why didn't Star panic? It wasn't as if we'd rehearsed that scenario. I'd never asked him to lie down or get up on command, and I'd certainly never trapped myself under his legs on purpose. He was certainly not dull or lethargic by nature, nor was he the most intelligent horse I've ever trained. Throughout his training, however, I'd always worked to develop his confidence in humans. I'd raised him, his dam, and his grand-dam from birth, and I'd spent countless hours encouraging their trust and helping them face and overcome their instinctive fears. Star's early training had included many carefully structured hours of low-threat combat training (see chapter 14), which introduces and then defuses many common fear triggers.

We had developed behavioral patterns for dealing with unexpected situations that required mutual trust and confidence. The habits of obedience and trust in both of us were strong enough to overcome instincts and fears. That's why we were both able to walk away from that fall.

And yes, we returned two weeks later and jumped that tree with a lot more focus and care. Star never hesitated but cleared it by at least a foot and a half.

Every Teacher Is a Learner, Every Learner Is a Teacher

You may not consider yourself a teacher or a horse trainer. But if you ride, drive, or handle a horse at even the most basic level of interaction, you are contributing to the horse's training. Horse trainers often refer to the early stages of training as "starting" a horse, but very few have the audacity to call any phase of

training "finishing" the horse—because training is always dynamic and will therefore never be "finished." *Every* human-horse interaction—even something as routine as feeding, haltering, or grooming—does one of three things: It confirms, strengthens, or weakens the horse's trust and confidence in humans. It works the other way, too: Every horse-human interaction confirms, strengthens or weakens the human's trust and confidence in the horse. But since we humans are the ones who possess the larger brains and control the horse's environment, we're supposed to be in charge—so *we're* the ones who are responsible for figuring out how to make the relationship work.

You may not consider yourself a student—particularly if you haven't seen the inside of a classroom for a few decades. But the very best horsemen and horsewomen all know that every ride on every horse teaches us something new, if we simply listen and pay attention. Alois Podhajsky, the legendary and longtime director of the Spanish Riding School in Vienna, expresses this understanding very well in his book *My Horses, My Teachers.*

I have not written this book as a how-to manual for training horses from birth through the highest levels of success. (There are many good books and training systems already available, and I'll refer to several of them at various points.) Primarily, this book was written to encourage you—the concerned and

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The positive trainer builds confidence and establishes patterns of obedience by tapping into every horse's need for comfort, security, and trustworthy leadership.

committed horseperson in any discipline and at any skill level—to think more carefully about how humans communicate with horses and how they need to communicate with us. I want to help you create a logical, consistent system of request, response, and reward that will help you and your horse establish excellent teamwork. I'll provide you with a model for lesson plans that you can use to clarify the steps in reward-based training and adapt them to your own training program. I'll also give you a series of tried-and-true exercises to develop your balance, your communication skills, and your ability to say yes to your horse.

In other words, we're going to take a look at the communication process from the horse's point of view and understand how his behavior can be influenced so you can get what *you* want by giving him exactly what *he* needs and wants. That's positive horse training.

I can hear the protests: "But all my horse wants to do is loaf and hang out with his buddies!"

That may be true—and you've identified two of the horse's basic motivations—but it's not the whole truth. And you can use those desires (for security, relaxation, and companionship) as rewards that will work in your favor. If your training follows a consistent reward-based learning process, your horse will *want* to please you. After all, who do you want to have working with you? A friend who will trust your judgment in a scary situation, who will work extra hard just to make you happy? Or a stranger who grudgingly does what he's told, grabs his paycheck, goes on strike at every opportunity, and quits as soon as the work gets tough?

Another protest: "My horse will be spoiled if I'm too nice to him!"

This isn't about being nice or not nice; it's about trust, understanding, responsibility, respect, and logical consequences. You won't spoil your horse if, from his point of view, your requests and rewards are both logical and appropriate. With a deeper understanding of how to create trust by knowing what motivates your horse, you'll be able to view the horse's needs (his goals) as incentives for good performance (your goals).

Reward-based positive training uses both positive and negative reinforcement to help you accomplish what you want by giving your horse what he wants and needs. Negative reinforcement? Isn't that punishment, the opposite of reward? No, not at all. Let's review some basic terms in learning theory.

Patterns of Learning

How does learning occur? Behavioral scientists have identified four ways that most animals—including humans—learn a specific behavior. These four patterns of learning are positive reinforcement, negative reinforcement, punishment, and extinction. Both positive and negative reinforcement *strengthen* behavior by providing appropriate rewards for correct responses. Punishment and extinction *weaken* behavior because they do *not* provide rewards.

Positive Reinforcement

Positive reinforcement isn't just a reward for correct behavior; it's a specific pattern of learning that occurs when a particular behavior receives a reward. Here's what happens: A reward is offered, the horse uses trial and error to find the response required to receive the reward, and the horse gets the reward. The trainer repeats the offer-response-reward sequence, and the horse soon discards the behaviors that don't work, zeroes in on what does work, and shortens his response time to get the reward faster. The horse has learned something new by associating a reward with a previously unrelated action.

Perhaps the best-known example of positive reinforcement used in training is clicker training, which teaches an animal to obey commands by associating a food reward with the sound of a mechanical clicker. Clicker training was originally developed to train free-swimming dolphins, which obviously can't be pushed or pulled into a particular behavior. One of its great advantages is that the animal initiates the actions that result in a reward. If training sessions are scheduled around feeding times, this method can produce rapid results because the animal is hungry. (Food rewards are discussed further in chapter 3.)

Pure positive reinforcement doesn't work in all training situations. It's a trial-and-error process that requires a lot of time and patience because the horse has to initiate the behavior that yields a reward. It does work well, however, in situations where you have little or no physical control over the horse (for example, when you want your horse to come when called). It's easy to train a horse to come when you call or whistle, but it's amazing how few horse owners bother to teach this. Most people trudge out into the field, walk up to the grazing horse, and hope he doesn't leave while they're buckling on the halter. But if every time you enter the paddock you offer a reward, connect a certain signal (a call or whistle) with the reward, and use the signal to *catch the horse being good* when he takes even a single step toward you, you'll end up with a horse who's easy to catch and happy to see you.

Of course, our horses experience positive reinforcement every day without our thinking about it, and sometimes the results are not always what we're looking for. It can explain a lot of behavior that doesn't seem logical to us but makes perfect sense to the horse. "Hey," the horse thinks, "when my human walks in the barn in the morning, I paw the floor and yell, and *voilà*! Breakfast arrives. Works every time!" We may not think of this as positive reinforcement because we didn't intend to train the horse, but that's a classic example of a behavior that has developed through positive reinforcement.

Does positive reinforcement work? Yes, as long as the rewards are prompt and consistent. As with all training, if the rewards disappear, eventually the behavior will disappear.

Does positive reinforcement use bribes? No. There's a small but very important difference between a bribe and a reward. A bribe is given *before* the requested response; a reward *follows* the response. Remember, too, that the reward doesn't have to be food. There are other meaningful rewards the horse can appreciate, such as praise, rest, a scratch on the withers, or a rub on the forehead.

Negative Reinforcement

Negative reinforcement is *not* punishment. Negative reinforcement strengthens a particular behavior when the horse takes action to *avoid* something that's uncomfortable. When he responds correctly, he receives a clear reward because the negative condition *disappears*.

For example, to ask my horse to stop while I'm leading him, I stop walking and create pressure on the bridge of his nose by pulling back on the halter. The pressure is the negative condition: It's a small but uncomfortable pressure that upsets his balance and his comfort. The horse may attempt a couple of different responses to make the pressure go away, but it's only when he gives the correct response (he stops) that I promptly release the pressure. Through repetition, the horse learns that if he gives the correct response (stops), he receives a reward (the pressure goes away). *This is the important point*: The horse doesn't stop because I tug on the halter; he stops because he has learned that *every time* he responds in that way to that signal, the pressure goes away (or he avoids it entirely) and he is comfortable again. I'm not using physical force to stop a half-ton animal, I'm using a reward to encourage the horse to stop *by himself*.

To reinforce the correct behavior, I'll also give another reward, generally a pat or verbal praise—which is positive reinforcement.

If I use another signal a half-second before he feels the pressure on the noseband—if I stop walking and say "whoa" or raise my hand—the horse will begin to associate that secondary signal with the pressure on the noseband, and soon he'll halt when I simply say "whoa" and signal with body language. He's giving the correct response at the mere suggestion (or threat) of a negative condition. ("Aha," you say, "but if there's no negative condition to remove, what's the reward?" There are actually *two* rewards: He avoids the negative condition altogether, and he knows he's pleased me. More about the nature of rewards in chapter 3.)

Timing, of course, is critical. If I don't promptly reward the correct response—in other words, if I don't remove the pressure the moment my horse stops—then no learning takes place and he's likely to try a different response next time. If the horse receives a reward for *incorrect* behavior—if, for instance, he keeps walking and I let go of the halter—then I've taught him an incorrect and potentially dangerous behavior that will require stronger measures to correct.

So Which Works Better, Positive or Negative Reinforcement?

From the human point of view, training a horse through negative reinforcement (or a combination of negative and positive reinforcement) is often more effective than using positive reinforcement alone because negative reinforcement involves requests that are initiated by the trainer rather than the horse. Negative reinforcement prompts the horse to take action to relieve discomfort ("How do I get rid of that irritation?") instead of waiting for an otherwise comfortable, balanced, content horse to move toward a desired reward—which is essentially what has to happen with positive reinforcement.

It's important to remember that *every instance of negative or positive reinforcement must include the appropriate reward or it will not work.* The timing must *always* be precise, and the pattern must be *repeated* to strengthen the response because all training is based on logic, consistency, and repetition.

Punishment

Punishment (also called *correction*) teaches the horse that an incorrect behavior will result in an uncomfortable or undesirable consequence. He will therefore try to avoid the behavior, to avoid the consequences. With many horses, we do have to use punishment occasionally (and very carefully) to remind them that we, not they, are the team leaders. Older members of a herd would not tolerate a pushy, aggressive colt's obnoxious behavior, and we must not tolerate bad behavior, either—but the type and degree of punishment must always fit the transgression, and we need to remember that the *threat* of punishment often works better than actual punishment. And a horse must never, *ever* be punished for fearful or timid behavior or simply because the rider or trainer is impatient or angry.

Extinction

Extinction, the fourth pattern of learning, weakens a behavior by providing no feedback whatsoever. If a behavior never receives a reaction of any kind, positive or negative, it will gradually disappear. In training, this means two things. First, if the horse is no longer performing correctly, then we're probably developing a pattern of extinction by not providing any incentive for the correct behavior. We tend to focus on the requests we've made and the responses we get from our horses, but the critical factor from the horse's point of view is his reward. If you forget the reward, you're training by extinction, and that means you're *eliminating* desirable behavior. Second, if the horse persists in a behavior that we're trying to eliminate, then he must still be receiving some reward for it. It's easy to forget that the horse's rewards may come from the environment, the situation, or from animals or people other than ourselves.

Time and Memory

Some horses are able to remember the correct responses to things they haven't done for 10 years, while others seem to forget what they learned just last week. Studies have found that horses have excellent memories, so it's unlikely that a horse has forgotten what he learned. And it's not that one horse is smarter than another (although there are definite degrees of intelligence among horses). It's simply that the first horse was trained carefully and consistently, and his behavior patterns were reinforced so strongly that his response is nearly automatic,

even years later. The horse who "forgets" never had his learning reinforced correctly or consistently, or some event has intervened to change the pattern of his behavior.

We've all heard riders moan, "Stupid horse! He did this just fine yesterday! Today I'm asking for the same thing the same way, and he's not doing it!" Meanwhile, the horse is thinking (if horses think as we do), "My response yesterday didn't work—there wasn't any reward—so I'll have to try something different today."

Combining the Learning Patterns

Successful communication with a horse is based largely on a combination of negative and positive reinforcement, plus occasional correction and extinction. All four patterns of learning are important, and you're likely to find yourself using two, three, or sometimes all four during one training exercise.

For instance, if you want to train your trail horse to walk quietly over a bridge, you might begin by placing a large sheet of plywood on the ground in his paddock. You put a carrot in the middle of the plywood and walk away. Eventually, the horse will become curious about the plywood or interested in the carrot or both, and he'll explore the plywood, sniff it, paw at it, and perhaps step on it to reach the food reward. You've left it entirely up to the horse to take his time and find the reward. He could see the carrot, but he couldn't reach it until he stepped on the obstacle. You gave him no commands, and there were no negative consequences if he didn't walk on the plywood. You've used straightforward, positive reinforcement to associate a reward with a specific behavior. And the horse is training himself—you don't even have to be there. You can be talking on the phone, cleaning stalls, or riding another horse.

Positive reinforcement can be very useful to introduce a horse to many strange and scary objects, and it should be part of every basic training program. But it's only part of the process because it doesn't teach him anything about trusting *you* and walking calmly across a bridge *at your request*. And some horses will be so fearful of any unfamiliar object that they'll simply stay far away from it, not wanting to step outside their comfort zone to risk their safety for something as trivial as a carrot.

But if your horse is willing to at least explore the plywood, next you move on to leading and then riding him across the plywood. If he balks or twists sideways, you might use a little negative reinforcement—a tap with a crop or a nudge with your heels—to create some discomfort, which he'll seek to avoid by looking for the correct response. Of course, you'll reinforce any attempt at the correct behavior with several rewards—the release of the irritation, a pat, and some verbal praise. After lots of practice to build his trust on the plywood, you'll ask him to transfer his learning and his trust in you to similar, but slightly more challenging, obstacles: a tarp, a raised dry bridge, a real bridge over a real stream in the woods.

Of course, before you ask your horse to walk over the plywood or anything else, you'll have spent many hours using negative *and* positive reinforcement to reward him for responding to a nudge from your legs or the verbal command "walk on." By the time you approach the bridge, he knows those signals *always* mean "walk forward," and he should also know he can trust you in scary situations. The best reward you can give your horse is to help him feel safe, secure, and confident in everything he does.

Would you use punishment or extinction in this training scenario? Almost never. If your horse is reluctant to walk over the bridge but doesn't seem truly fearful, you'll repeat the command to walk forward and be a little more forceful—after all, a good leader gives clear, *firm* directions. If your horse walks over the bridge willingly but acts a little worried and shows his concern by tossing his head or snorting, you'll reassure him and ignore the fussiness. The head tossing and snorting (signs of distress) should disappear if they are neither punished nor rewarded—that's extinction.

If, however, you give your horse a squeeze with your legs to ask him to step onto the plywood and he responds with dangerous, disrespectful behavior such as kicking or biting at your leg, then punishment may be appropriate. But if that happens, he clearly isn't ready to tackle obstacles—you first need to work on the basics of trust and respect.

For these geldings, dominance play is serious business—but they both understand that no one should be seriously injured. To establish a clear pecking order, horses use threats more than actual physical aggression. Whenever possible, trainers should make use of this, using threats rather than outright punishment to establish respect and obedience.

Trust, Respect, and Confidence

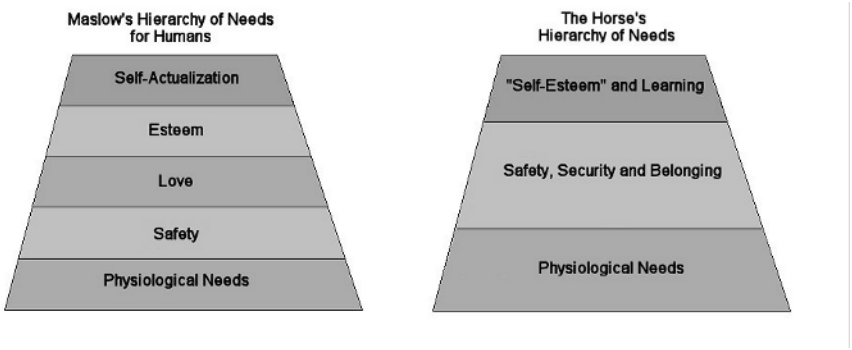
The training process is really about building trust and respect. When you have trust and respect, you'll have confidence. To develop these qualities in a horse, you need to introduce new tasks, situations, and problems in a logical, step-by-step program and show your horse that he can trust you to help him solve these problems. He can believe in you because you'll never, ever betray his trust or let him be hurt. You'll never ask him to do something he can't do or doesn't understand, and you'll never confuse him by changing the rules.

It's really easy to turn a steady, responsive, trustworthy horse into a resistant, anxious, ill-mannered one. People do it all the time through ignorance, inconsistency, misunderstanding, a need to dominate at all costs, or a simple lack of attention to the horse's needs. All you have to do is ignore the horse's good behavior (thereby extinguishing it), invite confrontation through indecision and confusion, ask for resistance by demanding more than the horse can give, send contradictory messages by rewarding him randomly, ignore his pain and insecurities, and punish him erratically to increase his anxiety.

The Horse's Hierarchy of Needs

Before anyone—human or horse—can focus on learning anything, certain basic needs must be met. In the 1950s, psychologist Abraham Maslow developed a theory of human psychology that is known as the Hierarchy of Needs and Self-Actualization. Maslow said that people must have their needs for air, food, water, and sex taken care of before they can seek the next level of needs—security and safety. Once all these lower-level needs are satisfied, people turn their attention to the next level of psychological needs, which includes love and esteem. If the lower levels are *not* met, a person cannot even think about anything on a higher level. For instance, abused children cannot learn to give or receive love until they feel safe; nor will they do well in school because learning can only take place at a higher level, which includes esteem. All their energy is taken up by trying to meet their more basic needs, and they can't concentrate on schoolwork until they are healthy, well-fed, safe, and secure.

Horses aren't as complex as we are—there's no evidence that they're striving for a human's highest desire for self-actualization, the "be all you can be" goal—but the basic hierarchy is remarkably similar. If your horse can't find enough food and water to survive, he's not going to be interested in your attempts to teach him flying changes. If a mare feels that she and her foal are being threatened by another horse, she will concentrate on that problem and ignore your requests to walk along quietly on the lead rope. And if all a stallion can think about is the band of mares in the next pasture, he'll do practically anything—ignoring his own safety and comfort—to satisfy that very primal need to reproduce.



Although the horse's hierarchy of needs isn't as complex as ours, the same principles apply: The basic physiological needs for survival must be met before a horse can learn anything new.

So the physiological needs for sufficient food, water, shelter, and reproduction are primary, in horses as in humans. Next on the pyramid is the need to feel safe and secure. For the horse, this is met by familiar surroundings and the companionship of the herd. If there are no equine members in his herd—if he's an only horse—he'll turn to humans or to another species (such as a cat or a goat) for companionship. His barn represents security as well because it's familiar to him and that's where he finds food, water, and a safe place to sleep.

In the human hierarchy, Maslow separates safety and love/belonging into two separate levels, but for horses these two needs are very much intertwined. For the horse, the herd provides social order, which means a hierarchy, which represents safety. Being able to trust the herd and knowing where he fits into its social structure are absolutely critical to the horse's sense of security.

Familiar surroundings also represent safety and security. Familiar surroundings can mean different things for different horses; it all depends on what the horse has learned and experienced previously. (One of the basic goals in training is to expand the horse's concept of familiar surroundings so he will feel safe and be able to relax in many different situations.) A horse raised around llamas is comfortable with llamas; they represent familiar surroundings. But a mature horse who's suddenly confronted with llamas moving in next door will probably feel very threatened by these strange new creatures and will do his utmost to get away from the threat until time and experience prove to him that they're harmless.

Only after the needs for safety and security are met can learning take place. For humans, Maslow identifies learning as part of a need for esteem. When we humans learn new skills, we feel more confident in our ability to solve problems and manage new situations. For horses, learning is closely aligned with the need for security, which is also connected with obedience to the leader: The horse learns how to please the leader and he develops confidence in his ability to respond correctly so that he can feel safe and secure in his obedience.

Horses also seem to enjoy learning, especially when it involves physical activity. Becoming stronger, fitter, and better balanced often seems to increase a horse's self-confidence—and it may even improve his status in the herd, which certainly makes sense from a "survival of the fittest" perspective. The horse who can run faster, jump higher, and travel greater distances without fatigue is more likely to survive than his herdmates. Whether the horse can connect the human-directed learning activities with the positive physical results is uncertain, but there's no doubt that good physical activity releases feel-good endorphins in horses, just as it does in humans.

So why is this important? It's at the heart of understanding how horses learn. If your horse doesn't trust you—if he doesn't feel that his leader is going to keep him safe and secure—he's not going to be willing to learn how to step on that plywood bridge. No carrot will get him to walk into that trailer if he doesn't trust you.