

Optical Illusions and Other Misconceptions By Lynn Acton

We realized one January morning that it had been days since we'd seen the horses in their favorite pasture below the barn. They had gone only to the pasture above the barn. I planned to ride Bronzz around the lower pasture to investigate, but he stopped at the gate, right in front of the answer. A leaky underground drainage pipe had caused the snow to melt in a circular pattern that looked like a sinkhole. Surrounding drifts made it impossible to tell where solid ground really was. I would have been suspicious, too, if I didn't already know what the problem was. Once I'd shoveled a clear path around the optical illusion, and walked back and forth to demonstrate that it was safe, all three horses trooped out happily to dig through the snow.

For many years the "scientific" view of horses claimed that they were color blind, near-sighted, and had poor depth perception. They had no ability to think, and acted solely on instinct and conditioned response. One might wonder how such inept creatures survived in the wild, yet somehow they managed to locate their own food, water, and shelter, negotiate the social complexities of herd living, and survive the dangers of predators. Then they adapted to an endless variety of domestic environments, people, and jobs. Current research is finally validating what astute horse people have always known: horses do indeed have some fascinating perceptual and mental abilities.

Tests of visual acuity show that horses are only slightly near-sighted. Their 20/30 on the Snellen scale is better than the DMV requires of humans for a driver's license. Horses do see in color, though current research suggests that their perception of red and green is similar to that of a human with red-green color blindness. We have all seen their incredible depth perception in action: a trail horse who can squeeze between two trees without scraping his rider's knees, a "pushbutton" hunter who knows exactly where to take off for each jump, and how high to jump, or a playful horse who races across a pasture and comes to a sliding stop inches from the fence.

Another "scientific fact" that's been disproven is that horses must see something with both eyes in order to recognize it. Not so. Yes, they might need to see an object from both sides to recognize it, but that is because either the object *looks* different from both sides, or it appears different in context. I sure hope that's not a sign of limited intelligence, because I personally can never find those turns in the trail going the other way.

Horses, in fact, have incredible visual memories. I was riding a friend's horse one hot summer day, when my mount made a sudden

unauthorized turn right off the trail into the bushes. “What was that?” I asked his owner, as I course-corrected. She explained that there used to be a trail there that was a short cut home. Ten years ago. Though I could find no hint that a trail had ever existed in that spot, clearly it still existed in his memory.

We see the effect of their visual memory every time a horse does a double-take at a familiar object that appears in a new place. It’s not that he doesn’t recognize the object. He’s suspicious because he recognizes that it’s out of place, only prudent for a prey animal. Bronzz once balked at a wheelbarrow full of rocks. Absurd? In his experience rocks didn’t belong in wheelbarrows, and wheelbarrows didn’t belong outside the pasture fence. After carefully perusing the situation, he strolled on by.

Horses’ reactions to what they see can offer insights into their thinking. If a horse balks at a puddle, chances are that if he is permitted, he will investigate it, perhaps taste testing the water or pawing at it. Horses also test electricity. Sapphire once watched intently as I closed an electric wire gate. Then she stepped up and deliberately put her nose on the wire. She knew the electric fence was on, so why would she touch it? She had just seen me touch it without getting zapped, and apparently she wanted to know if she could, too. She simply missed the detail that I’d held the plastic handle, not the wire.

One can argue that instinct explains a horse’s reluctance to cross suspicious footing, such as the optical illusion created by the “hole” in the snow. But Sapphire’s experiment with the gate wire suggests a logical deduction (If the fence didn’t hurt Lynn, it shouldn’t hurt me.), which she then tested to determine whether her hypothesis was correct. She was, in fact, highly indignant when the fence zapped her. Traditional researchers dismissed such incidents because they already “knew” horses were incapable of logical thought. A new breed of researchers are re-evaluating equine abilities with ingenious experiments and open minds. The results promise a better understanding of our equine friends.

Reference

“The Thinking Horse: Cognition and Perception Reviewed” by Evelyn Hanggi, PhD. Equine Research Foundation, Aptos CA. Their website www.equinersearch.org lists numerous research articles pertaining to horses and their abilities.