



THE TRAPEZOID

A tool to help you evaluate a horse's balance.

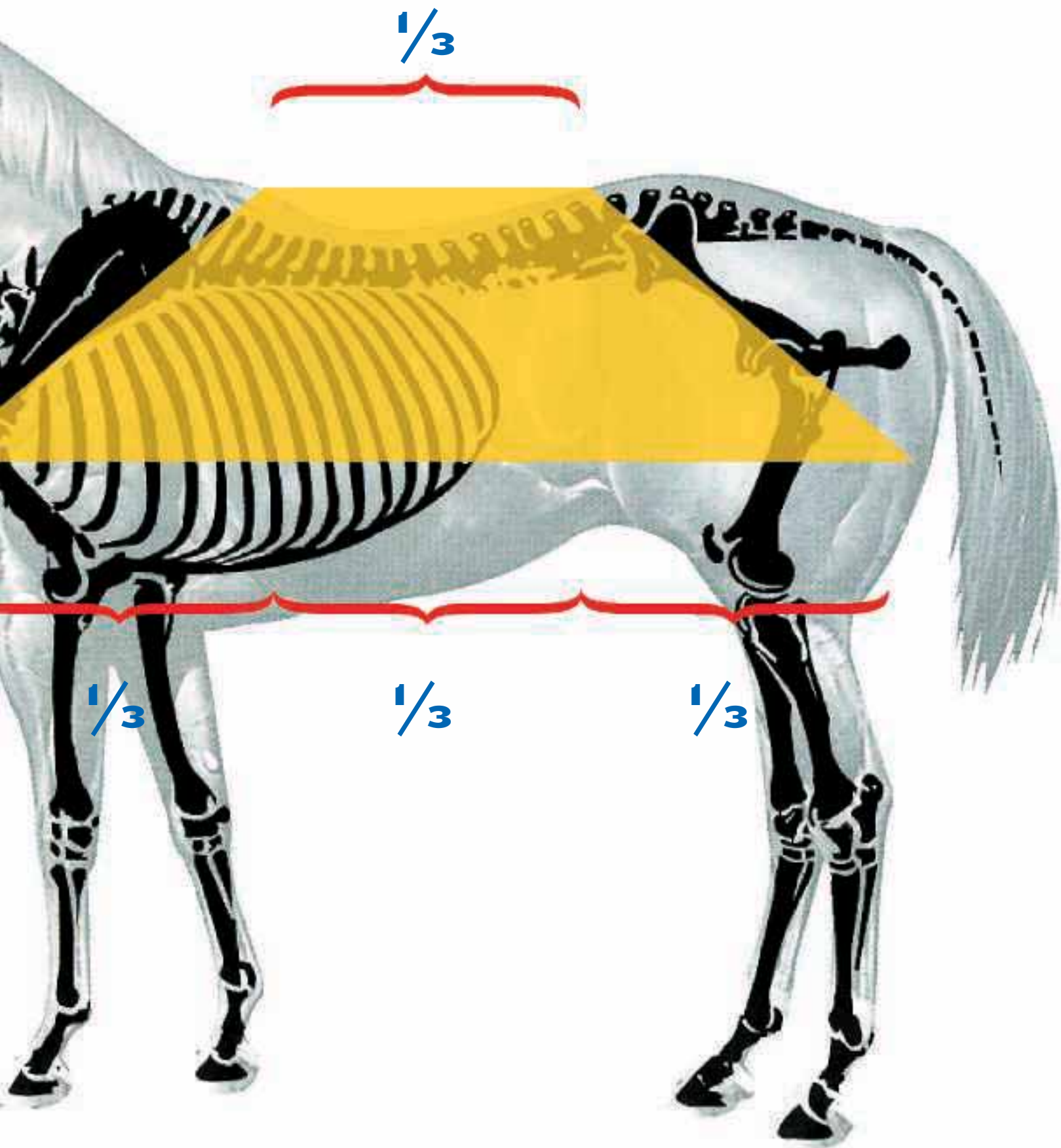
By Christine Hamilton

THERE ARE SEVERAL GREAT TOOLS YOU CAN USE TO TRAIN YOUR EYE TO SEE A HORSE'S OVERALL balance and structure. One that has been around the block with many trainers and breeders is the "trapezoid" theory.

The *Journal* asked three Quarter Horse industry professionals who use the trapezoid in their programs to help explain it: AQHA Professional Horseman June Warren of Yukon, Oklahoma; Carol McWhirter of Doniphan, Nebraska; and Philip "Vic" Clark of Shelby, Ohio. They collaborated in a lecture on the topic at the 2005 All American Quarter Horse Congress.

"You've got to start with the right erector set." Carol McWhirter, Dan McWhirter Quarter Horses, Doniphan, Nebraska

The trapezoid on the ideal American Quarter Horse.



"The trapezoid tells me if a horse is truly balanced," June said. "A balanced individual is more likely to have good movement, athletic ability and soundness."

When you first look for a horse's trapezoid, try drawing it out on a good conformation photo taken in profile on level ground or use string to mark it out on a horse.

Draw It Out

1. Level Ground

Have the horse stand balanced on level ground. The weight should be evenly distributed over the front and hind legs, not leaning forward or back. At least one front leg and one hind leg should be square under the body.

2. Back Line

Imagine a line parallel with the ground, extending along the horse's back from the middle of the withers to the middle of the loin.

3. Body Line

Imagine another line parallel with the ground, extending from the horse's chest at the point of the shoulder to the rear just below the point of the buttocks.

4. Angles

Complete a symmetrical trapezoid (isosceles trapezoid) over the horse's body. Connect the back line at the withers to the body line at the point of the shoulder. Connect the back line at the loin to the body line at the rear, just below the point of the buttocks*.

**Look at the skeleton. The point of the buttocks is the tuber ischii.*

To follow the actual slope of the ilium (the pelvis), draw your line to the spot below the point of the buttocks that is level with the point of the shoulder.

What It Tells You

AS JUNE, CAROL AND VIC EVALUATE A HORSE, THEY KEEP THE perfect trapezoid in mind as a guide.

"To 'see' the trapezoid in a horse's structure, I visually 'strip' the horse, first the skin, then muscle, and picture the horse's skeleton in front of me," June explained. "This allows me to look through an overweight or underweight horse, or one that is not properly conditioned. It also keeps me from being fooled by a fit, pretty horse that might not be structurally correct.

"The true test is not how many inches a certain body part is, but how the parts relate to each other," she added.

First, if the line along the back is level with the ground, you can see if the horse is built "uphill" (withers higher than the croup), "level" (withers level with the croup) or "downhill" (withers lower than the croup).

"I've heard it said that an untrained horse in nature carries 60 percent of its weight on the front end," Carol said. "As a horse is trained, it learns to assume more weight on its hindquarters through muscular development. If you watch high-level dressage horses or advanced reiners, they shift their weight to their hindquarters when they work."

That's easier to do naturally for a horse that is built level or uphill.



These fillies have different body styles, and though one is walking and one is standing downhill on uneven ground, you can see they both have balanced trapezoids.

In addition, in a balanced horse, the back should be one-third the length of the horse's body, or very close to it. That creates a short topline and long underline.

The opposite (not parallel) sides of the trapezoid should be the same length. They follow the slope of the shoulder and pelvis, and the slopes of those bones always correspond in a horse.

The figure helps you evaluate the slope of the shoulder and hip. The angle formed between the line along the shoulder and the body line should be the same as the angle formed by the line along the pelvis and the body line. Ideally, they're close to 45 degrees – the wider those angles are, the straighter the shoulder and the steeper the croup.

"(The trapezoid) tells me if the horse has a hip equal to his shoulder in both size and slope, and if the length of his back is correct in relation to his body," June said. "Those all contribute to the horse having a stronger topline, making it easier for him to carry himself properly.

"A horse with a good slope to his shoulder will have a

SIMPLE GEOMETRY

An isosceles trapezoid is a quadrilateral (4-sided) figure, with two parallel sides. The two non-parallel sides are congruent (the same length). It also has two pairs of congruent angles, at the base and at the top of the figure.

better reach with his front leg and will have a more correct head carriage," she continued. "A shorter back will make it easier for the horse to round his back and engage his hindquarter to create drive.

"The correct slope to the croup and hip will make it easier for the horse to keep his hind end underneath him and use his hocks and stifles correctly."

Idea in Action

BALANCE IS THE MOST IMPORTANT FACTOR ALL THREE HORSEMEN use in selecting stock for any reason.

"A horse's structure will dictate his movement, and the more balanced he is, the better his potential for good movement and athletic ability," June said. "It is the best tool I know of to improve the odds of turning out good show horses whether you are trying to breed, find or train them. You can only possibly hope to make them the best that their structure will allow."

Vic pointed out that there are great horses that don't meet these criteria for balance and that mental attitude plays a big role in performance.

"But those horses that defy form-to-function conformation and are still fabulous performers are the exception rather than the rule," he said. "If you walk through any top breeders' herd, their horses will fit this (trapezoid) mold."

A horse's pedigree doesn't outweigh balance, in Vic's opinion.

"The pedigree doesn't mean anything if a horse doesn't



JUNE WARREN

LEARN MORE

If you are interested in learning more about evaluating horse conformation, look up the *Journal's* 2006 conformation series in these past issues or go online to www.aqhajournal.com.

- "How Good Is Your Eye?" January 2006, pg. 126
- "The Big Balance Picture," March 2006, pg. 66
- "Down to Details: Front End," May 2006, pg. 68
- "Down to Details: Hind End," July 2006, pg. 56
- "Character of the Breed," September 2006, pg. 68
- "Using What You've Learned," November 2006, pg. 56

The trapezoid theory is also discussed in the following books:

"Reining: The Art of Performance in Horses," by Bob Loomis, with Kathy Kadash, June 1990.

"Resistance Free Training, The Basic Ingredients: Off to a Good Start," by Richard Shrake, 2000.

"Judging Hunters and Hunter Seat Equitation," by Anna Jane White, 1993

have the conformation to go with it," he said. "What the pedigree means is if the horse has the conformation and has a good pedigree, then the pedigree increases the odds dramatically that what you are looking at will reproduce itself."

June would rather compromise other things, not balance.

"I will pick a horse that is not as pretty but is balanced over one that is pretty but lacks an area of balance," June said. "A horse's head does not determine his movement.

"If I compromise anywhere on balance, it would be with a slightly longer back," she added. "I have found that if the other elements are there, and the horse has great hocks and is strong over the back and loin, the back can be a little longer, and he can still be a good under-saddle horse.

"But if the shoulder and croup are too steep and the hocks

are weak, it will not matter how short the back is because the horse will never have a big, strong stride."

Breeding for Balance

"HORSES ARE ERECTOR SETS," CAROL SAID. "WHEN YOU ARE breeding horses, it goes right back to the skeleton; you are breeding length of bone to length of bone.

"If you throw away all the muscle and coat color, all the frosting on top of the cake, a horse can only move the way its bare bones erector set says it can move," she continued. "If you have wrong angles, you aren't going to fix it no matter how famous its parents are or how good a trainer you have. You've got to start with the right erector set."

Carol and her husband, Dan, have aimed to make their horses "homozygous for balance." By breeding for balance, they want to raise horses with natural ability to collect and use their hindquarters, making it easier for horses to do their jobs.

"When we breed horses, we're breeding for the needle in the haystack," she said. "We're not breeding for average horses any more. The industry is so competitive, and it's going towards the best of the best. (Breeding for balance) is how we excel in the breeding business and make a positive contribution."

Movement Unseen

VIC HAS YEARS OF EXPERIENCE SELECTING PROSPECTS AND BROOD-mares at auctions where he can't watch a horse move beyond a walk. Using the trapezoid helps him find great movers anyway.

"Look for a horse that the trapezoid fits," he said. "Then watch him walk. If he walks so that he over-strides behind, where the hind foot lands past where the front foot hits, and if he breaks over straight in the front, I promise he can lope.

"I have bought probably 30 broodmares over the years just by watching them walk, and there was not one of them that couldn't lope."



This stallion is balanced.



First among this horse's faults is that it lacks balance.

COURTESY OF DON TOPULIFE, PH.D.

Young Horses

HOW DOES THE TRAPEZOID HELP YOU LOOK AT YOUNG STOCK, especially when they're gawky and croup-high?

"Look for the trapezoid, but it will tilt forward, not parallel to the ground," Vic said. The key is to also look at the heart girth.

"If they have enough depth to the heart, I am completely convinced they will level out," he said. "I have a mare that was very downhill as a yearling, with a good trapezoid, and was really deep in her heart. I ended up winning a bet with a friend, because I said she'd level out."

June doesn't use the trapezoid to evaluate newborn foals.

"I use the term 'folded' to describe how bigger foals come out with a pinched look in their shoulders and/or hips," she explained. "They have been bound up in the dam, and it takes awhile for them to 'unfold.'" During the first few weeks, the angles in their shoulders and hips open up.

The McWhirters try to breed for a certain growth pattern.

"Different families of horses genetically are predisposed to different maturation processes," Carol said. "Many popular families of horses grow in a teeter-totter fashion. We try to breed horses that are always balanced during the growth process."

She pointed out that it's a big advantage to have a balanced horse as a youngster, especially for certain competitions such as halter or western pleasure futurities.

"If a horse hits a growth spurt two weeks before a futurity, it makes it difficult because the balance of his whole body changes. A level growth pattern gives a big advantage." ❏

Christine Hamilton is a field editor for The American Quarter Horse Journal. To comment on this article, write to chamilton@aqha.org.



PHILIP "VIC" CLARK of Shelby, Ohio, has been breeding and raising horses for over 40 years, and has managed and announced horse sales since 1984. For his "real job" he is a CPA, working for many people in the horse business. A past president of the Ohio Quarter Horse Association, Vic and his wife, Libby, raise performance horses at their Clark Quarter Horses.

CAROL McWHIRTER and her husband, Dan, have been breeding Quarter Horses for more than 25 years from their Dan McWhirter Quarter Horses in Doniphan, Nebraska. Their program has impacted the western pleasure industry through such horses as their stallions *The Big Investment* and American Quarter Horse Hall of Fame horse *The Investor*.

JUNE WARREN, an AQHA Pro Horseman, is a past president of the National Snaffle Bit Association and has won World and Congress championships in hunter under saddle. She and partner, Ron Horn, own and operate a training and breeding farm in Yukon, Oklahoma, where they specialize in hunt seat horses.