

# THT BLOODSTOCK: PATTERNS OF MOTION ANALYSIS

WITH KERRY THOMAS AND PETE DENK

## Ranked in Herd Dynamic order for 1 ¼ miles on May 5, 2018

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1. Justify
2. Audible
3. Magnum Moon
4. Bolt D'Oro
5. Hofburg
6. Good Magic
7. Noble Indy
8. Mendelssohn
9. Vino Rosso
10. Solomini
11. Flameaway
12. Bravazo
13. Enticed
14. Instilled Regard
15. Free Drop Billy
16. My Boy Jack
17. Firenze Fire
18. Combatant
19. Lone Sailor
20. Blended Citizen (AE)
21. Promises Fulfilled

# 2017 KENTUCKY DERBY ANALYSIS INTRODUCTION

## Performance Anxiety and the Kentucky Derby - The Race Between the Ears

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It's hard to believe that another year has gone by and another Kentucky Derby is upon us. As I sit here putting thought to paper, the fact that this is our 8th year evaluating the contenders and presenting this report seems surreal to me in a way. Pete and I appreciate your interest and support and for both new and seasoned readers of our work. Perhaps you will find new clues to handicapping and new ways to look at horses through herd dynamics along the way.

Because one of our primary focus points at THT Bloodstock, whether recruiting horse athletes for clients at sales or digging into an under-achiever, is the athletic psychology and herd dynamic of the individual horse, we're always seeking to ID tendencies under emotional stress. Gaining an understanding of how an individual will mentally perform under the demands of stressful environments, be they physical, psychological or more often than not, both, is your window into actual performance ability.

As emotional athletes, horses are often reflections of their environment, subject to not only the physical changes of the environment but also the mental. Performance anxiety can be a powerful inhibitor for a horse based upon many things inherent in the anticipatory response mechanism of the psyche. Anticipation of known experiences may be reflected either in the positive or negative, anticipation of the unknown can be as well, though these are based largely upon association. Regardless, the influence on performance can be profound; helping an individual rise to the occasion or fade away under the stress.

Unrealized ability is often rooted in the psyche; physical fatigue and mental fatigue are two separate, symbiotic aspects evaluated and graded separately, then considered together. No matter if you're recruiting human or horse athletes, the question you have to answer is; will the psychology optimize or inhibit the talent of the physical athlete? Adaptability to the unknown is an essential ingredient of both stress management and performance; its core is behavioral genetics. I can think of little else more of an unknown in so many areas than the experience that is the Kentucky Derby.

The mechanics of the athlete can be studied scientifically, but the heart of the horse must be appreciated instinctively.

### Stress & Herd Dynamics

Few things are more inhibiting to performance, health or growth than stress, be it physical, mental or as is often the case, both. To understand performance anxiety is to embrace the notion that emotional stress can come from worry about an anticipated event based on either an experiential or associated/anticipated event or outcome. Physical discomfort associated with an experience are learned behaviors that can cause performance inhibiting emotional stress long after the physical has healed. Physical stress from attrition of effort, soreness, strains and so on are, we always hope, short term stresses. Short term stresses psychologically speaking are fleeting in-the-moment stresses; though they can sap a horse's physical and emotional energy reserves, they generally have a minimal shelf life. An individual horse's herd dynamic, where they fit within a herd environment, has a great deal to do with stress management and therefore, performance anxiety and their ability to optimize talent.

As a herd animal there is a natural structure to the hierarchy that is not physically based, but rooted upon sensory soundness and emotional intelligence. Roughly 85% of horses by nature fall into the middle ranges of the herd dynamic; lower middle, middle, and upper middle by shifting degrees, (which is why you may see a lot of physical 'talk' in your horse herds). Interaction within the herd is based upon a complex system of emotional communication.

The lower you go on the herd dynamic scale quite often the louder the horse is in reckless expression. The bully is hiding the most insecurity. The higher you go, the more purposeful their expression, like the quiet one in the crowd who is unassuming but clearly in full awareness of the environment and those in it. I've stated this many times before; one of Mother Nature's keys to herd survival is that she hides her leadership in plain sight; high level horses can turn to ghosts. Predators see the loud talking bully or the lingering infirm, and the yet unaware young. These become targets.

Short term stress naturally occurring in the herd environment has little lasting impact but can become a highly toxic inhibitor once isolated. When you isolate the horse from the herd structure, you isolate any and all of their herd dependencies. Not that they aren't physically capable but because on the stage alone an isolated emotional stress can be overwhelming, exposing dependencies and co-dependencies; isolation reveals strength and exposes weakness.

The majority of horses depend a great deal on one another for emotional stability, as we go higher up on the herd dynamic scale the less dependent the horse is on their peers, the highest levels being less than 3% of horses give or take. These horses are self reliant to a large degree. Their inherent emotional intelligence is extremely capable of adapting to sudden changes in the environment without exposing disruptive performance holes. High functioning sensory systems and psycho-sensory systems (which is the interpretive aspect) manage more situational chaos in isolation than most horses can in their herd. This is what

nature has in place to allow natural leaders to peel off, take over a herd, and why some horses cannot handle life without their herd and never wish to leave it. When removed, we see the reflection of their insecurities in their actions.

Manifested from these behavioral genetics are two types of athletes; the physical over mental athlete and the mental over physical athlete. The physical over mental athlete will be far more dependent on other horses in a race as well as upon their environment and changes within it, less able to manage situational chaos and more prone to stress limiting their performance. In essence, they must physically out-run their psychology in order to be competitive and unless a pure physical beast, this will be talent inside a time & distance box. The longer time-in-motion the more mental attrition chews away their emotional fortitude and they will only go competitively as far as their bodies can take them. There are plenty of really good even great physical athletes, but these often come with an expiration date because the emotional rigors of training and racing gnaw away at them at a faster rate.

The physical athlete measures time as a physical distance, giving the jockey their all until physically tiring. The mental athlete measures distance only by the time it takes to get there; giving the jockey every ounce of emotional energy even when the body starts to tire. Versatility in situational chaos is inherent for the mental athlete, anticipating environmental changes even before they happen; some horses can be ridden with feel, some must be guided. The most capable are those elite athletic psychologies synchronized with elite, peaking physical talent.

### **Stress & Structure; IHD/GHD**

The herd dynamics by their nature come with many parts to the whole that break down in to unique “character traits” and tendencies under stress when isolated. This is why I always advocate the nurture and develop point of reference; you develop the athlete when you nurture the horse.

When it comes to uncontrollable outside influences and situational chaos, no matter how well you’ve “nurtured and developed” coaching is still up against natural tendencies and basic instincts. It pays to know your horses’ tendencies as owner, trainer, jockey or handicapper. As we well know the Kentucky Derby is quite unlike anything these horses have experienced before, but even so they are who they are and will react using the same traits and tendencies found in their every day psychology. On a single-horse basis the herd dynamics are made up from the mixture of Individual Herd Dynamic, or IHD and Group Herd Dynamic or GHD.

The IHD is the psychological aspect geared toward what can be best described as individual targets, these targets can be singular as in one other horse, or can be horses or objects grouped into an area. The IHD’s primary application in racing is its inherent competitive nature; the emotional energy is zeroed in on an object like an arrow point launching forth with the purpose of getting to or beyond a certain target. The IHD is generally more poignant in colts because of its intended natural function. In the herd structure the colt/stallion’s primary job outside of breeding is to protect the herd from predators and to keep stragglers in line and would-be suitors, out. IHD becomes more highly developed when young colts are pushed out of their family herd and form bachelor herds of one or more. When in these bachelor herds colts have a chance to sharpen their IHD by way of the natural competition between them.

However IHD alone can only get the horse so far. Focus on individual stimuli without the buffer of being able to interpret variable stimulus has a cap on focus ability as well as competitive sustainability. The more GHD a horse has the more useful and sustainable the IHD becomes.

The Group Herd Dynamic is your key to true IHD optimization over physical distance within stressful environments; if IHD is your arrow, GHD is your bow. GHD is responsible for the management of multi-stimulus in the environment and by proxy helping filter stress before it is physically expressed.

Knowing the GHD of the horse will give you a major piece of the puzzle for understanding how likely the horse will or will not be effected by the environment, especially when that environment is filled with environmental stimuli like that of the Kentucky Derby. IHD is a psychological rhythm design best expressed in motion, GHD is a psychological rhythm that can be employed with equal alacrity whether in motion or in stasis; performance anxiety, where it exists, is largely expressed through the IHD.

Where the IHD by nature has a strong shift of influence in high level colts owing to their natural role on the fringes of the herd, the GHD has a strong natural shift in high level fillies because of their role within it. Interpretation or lack of, determines action. Interpretation ability is the defining difference between a horse moving in space, or moving through space; running with the herd or psychologically out-maneuvering those within it.

In general terms I have always assigned to the high level colt an IHD mixture of 70%-75% & GHD 30%-25%, but this is generic because every horse ‘personality’ like ourselves, comes with a wide array of uniqueness of character and idiosyncratic strengths and weaknesses. In competition these translate to running styles and optimum efficiency zones.

One of the most important things Pete and I look for and try to determine in our evaluations are an individual's GHD/IHD mixture as this affords us a window into who among them are likely to conserve and optimize their depth of emotional energy. Determining who has the deepest emotional energy to draw from is one thing, determining who will use it the best, another. A deep well of energy used erratically and reactively is nothing more than wasted energy. Emotional energy conservation is squarely housed in the GHD because the GHD manages the distribution of said energy. The IHD in competitive sports is much longer lived and utilized when launched from the platform of a high functioning GHD.

The GHD also provides an essential balance between the individual and the outside world regarding fluency of movement. Many an otherwise talented horse finds their short-comings at the end of a long race in those moments before the gate ever opens. Anxiety inevitably builds up in these moments; you can see this being expressed in the post parade quite often. An efficient GHD is crucial for conserving emotional energy during this period and is also a key ingredient for any horse to find mental and physical balance enough to get out of the gate properly. \*There is a difference between nervous and controlled energy expression. Horses that can ID and interpret oblique stimuli while maintaining a forward emotional 'reach', get out of the gate with greater consistency and fluency and are also more naturally maneuverable when dealing with herd chaos. Competitively the GHD allows the horse to anticipate the movement of other horses while the IHD allows them to act upon it. The GHD also contributes substantially to the "cruising" gear, allowing the horse to hit a psychological cruise-control at what we often call a hi-rev GHD, conserving emotional and physical fuel for a sustained IHD attack.

Breaking down the herd dynamic probability of success in this unique race is a combination of identifiable traits physically and mentally, and is not unlike splitting hairs. I always look at the probability of success based upon psychological growth patterns and herd dynamic tendencies leading into competition. We must be mindful that the reason we look for these patterns of behavior, is because they directly translate to patterns in motion.

### **Sensory Soundness & Emotional Stress**

It is said that all things start with the horse's feet physically, and it can also be said that all things start with the sensory system psychologically; sensory fluency precedes physical efficiency.

A physically sound horse is undeniably important, so too is a sensory sound horse. While the herd dynamics' function is in part interpreter, the sensory system is responsible for cohesively sweeping the outside world sonar style, the equine version of sensory-location.

To gain an understanding of how athletic any horse psychology is by nature, two things must be determined; one, how efficient the sensory system is in its different aspects and two, at what speed does the psyche operate. Tracking many horses over the years one of the more profound things we've discovered are the varying degrees of what I dub the "psychological spin cycle", the mental rhythm of the horse. Some psychologies operate at a high level of athletic efficiency only while in motion, and others have the versatility to adapt to changes in the environment regardless of how fast or slow the body is moving; these are your most efficient athletes. Naturally occurring rhythms in all horses are indicative of their "personality types", as they accent and influence every part of the horse's patterns of behavior. Performance aptitude and optimization, stress management and filtering, natural athletic ability, all are key ingredients led by the radar system. Efficiency and "soundness" here allows the horse to be competitive even during times of stress; the IHD feeding off sensory leads, the GHD providing balance through the sensory lead changes.

A "sensory lead" is a focus point. A "sensory lead change" occurs when a focus point is moved to, or through other sensory aspects be it from individual movement or objects that are moving past or around an individual, or both.

Sensory lead changes are as vital to athletic performance and efficiency as are physical lead changes; allowing the horse to move through changing environments without delayed responses or "drag", keeping their emotional energy from being wasted, conserving their physical energy by proxy. This is the very definition of athletic fluency. To understand sensory soundness we must first understand the primary function and subsequent equation of both the individual psycho-sensory (interpretative) and the collective psycho-sensory of codependent herd members.

The senses both individually and collaboratively search and collect information from the outside world and transfer it to the inside world of the horses psyche for interpretation, followed by action or inaction according to that interpretation accented by herd members or learned experience. Stimulus alone doesn't cause emotional stress, this happens in the psycho-sensory during interpretation directly affecting physical actions. The sensory sound individual is able to filter and process, interpret and adapt to situational changes in their environment without the help of other herd members. Again, when you isolate the horse from the herd, you are isolating them from any "second opinions" of herd mates.

In competition you want the horse that independently separates from the herd and not a horse that will be dependent upon outside influences such as other horses or equipment to find their separation. Smooth sensory lead changes, *the transferring of information detected in one sensory aspect to another*, allow the horse to survey and interpret stimulus in their environment regardless of the speed they are moving in any direction. This in turn translates to physical efficiency, allowing the horse the chance to fully optimize natural ability. The sensory system needs to be detecting and the psycho-sensory interpreting at a faster rate than the body is moving through a given space. Like a blocker in football, the sensory system clears space for the body to move through.

By virtue of being designed to live in a herd structure many horses have naturally incomplete sensory systems as individuals but in the group they are made whole. These are what we call “potholes” in the sensory system creating “sticky” sensory lead changes (resulting in the aforementioned physical drag). Those horse’s that hang or always have trouble out of the gate, running great sometimes and average the other; it’s these cases and many more that the culprit can often be found within. Horses whose sensory systems have too many potholes are likely to become herd-dependent, or “herd-bound” to some degree leaving you fewer tactical options. Horses that are having issues with interpretation and are asked to separate will not feel all that comfortable running at full speed much like you may not run all-out if you cannot see what you’re running over, toward or potentially into.

A horses’ ability to adapt to variable stimulus as an individual is housed within their psycho-sensory ability. From an athletic standpoint, assimilation should be an individual act and not a herd action adapted to, this will allow the horse to manage environmental changes with greater alacrity, including surfaces.

## Sensory System & Equipment

Equipments’ purpose is to eliminate or inhibit one or more areas of the sensory aspect; when a horse is dealing with “radar” issues this can be useful. However when the performance is being compromised by the psycho-sensory, the interpretation process that follows, equipment can add to an issue.

Among the more common things we see in an effort to combat or assuage sensory inefficiency are blinkers and or shadow rolls. Equipment has its place in certain situations though I am far more in favor of allowing the horse every chance they can get to overcome their potholes naturally through experience. Equipment used too early or as the simple “easy-fix” from frustration, (impatience), in my personal opinion, disrupts the natural growth patterns, inhibiting associative and experiential learning. This is not to say that a horse cannot benefit athletically from equipment. Obviously there are many horses that perform very well and actually need the sensory inhibitor to be competitive. At the same time, when you alter the natural sensory fields you run the risk of losing something in another area. The odds must be weighed, for every action there is an equal and opposite reaction more often than not. There is only so much air in a balloon and when you squeeze one part of it you’re pushing an overload of pressure into another. When “pressure” is applied to one area of the senses, you run the risk of unnaturally speeding up the psychological rhythms as the horse works to overcompensate, sapping emotional energy depth, and disrupting physical rhythm.

It’s very easy to over think and overload our own thought processes with analytics and the like, but in the end it’s about feel and instincts, horses are not machines. For me, accessory information, while good and useful to be sure, never supersedes my instincts or feel in life or in horses. I consider the Kentucky Derby contenders the way I do any of the horse athlete recruits we’re evaluating at auctions; I want to know how they’re likely to influence their environment, instead of worrying about how it will influence them.

The process of splitting hairs to come up with a herd dynamic power ranking for the first Saturday in May is never an easy task, this year is no exception. In racing where first and 4th are sometimes measured by head-bobs and nose hairs the order in which the horses cross the line doesn’t always indicate their actual psychological hierarchy at the moment they crossed it. For me it’s a “how many times out of ten” scenario; who is physically and psychologically peaking, who has peaked, who needs more experience. This is a Herd Dynamic synopsis of “who” the horses are from our point of reference in the spring of their 3yo year and where they may be headed. Though the race may take place on a track, it’s truly a race between the ears.

## Looking Ahead

I have always strived to press the envelope personally and professionally. Not everyone gets a trophy in real life; you have to work for it. Our goal at THT Bloodstock is to offer our clients diversity in their information portfolio about horses they may purchase, or horses they have. Horses are emotional athletes so whether buying, breeding or claiming, when it comes to investing keep in mind you’re investing in both car and driver. If you hope the horses have the potential to outrun the money invested in them, you’d be wise to get as much information about the mental and physical horse, the entire athlete, as you can.

Pete and I are considering adding to our own portfolio of individual clients by offering THT Partnership opportunities in one or more areas such as yearlings and two year olds, pin-hooking. Whether you are interested as an individual owner in learning more about our services or are someone who views partnership opportunities your chance to get on board, feel free to contact Pete at [peterdenk@yahoo.com](mailto:peterdenk@yahoo.com)

Some other new adventures have come to fruition since last years' derby report. I am honored to share that I have become a board member of the Non-Profit, Quest Therapeutic Services which is located in Chester County Pennsylvania. Late fall 2017 I had the pleasure of helping start a new equestrian program for my local High School and I'm also excited to share that Nature's Way Feeds & THT Bloodstock have teamed up to offer an organic performance feed, THT Optimum Organic.

### Personal Note

The one thing I have learned over the years is that the first step to realizing your dreams is believing that you can. A risk taker by nature, I have never been one to let life happen to me, when I can happen to it. Horse racing is a sport where losing is far more common than not, but where winning, even small wins in reciprocity, feels like nothing else. This journey I am on via THT Bloodstock would not be possible without business partner and best friend, confidant, Pete Denk. To say that I am thankful, appreciative, grateful, only touches the surface. I think that quality over quantity in life is what's important and I am fortunate to have a very small circle of high quality individuals in my life.

I'd like to reach back to the beginning of our Kentucky Derby journey and thank the original platform, Kentucky Confidential, for providing us the stump to share our initial reports and for helping us find a place in the derby media confetti the year Animal Kingdom ran down the roses. I'd like to also thank Ed DeRosa and the folks at Brisnet for helping us further our audience reach through their efforts and platform.

Most of all I thank you, the folks who purchase our report, your support and interest is the reason we do this. It takes a monumental effort for Pete and I to work through, compile, organize, study and evaluate, then write it all down; each year it's a major task that quite frankly I would not undertake if not for Pete. We truly appreciate your support and interest in how we at THT Bloodstock, go #Panning4Gold!

Follow us on Twitter: Pete @petedenk & me @thomasherding Visit: [www.thtbloodstock.com](http://www.thtbloodstock.com) for more.

~Kerry M Thomas

Founder, THT Bloodstock

# JUSTIFY

Colt by Scat Daddy—Stage Magic by Ghostzapper



At the surface, Justify is not the type of horse we would normally rank as our top rated Herd Dynamic going into the Kentucky Derby.

Justify employs an Individual Herd Dynamic speed pattern of motion, and he has run just three times. On Derby Day he will be running against more horses (19) than he has beaten in his career to this point (14).

Justify debuted on February 18 in a 7-furlong maiden race at Santa Anita. Wearing blinkers, he was last at the start, but his body control was good, and he showed no gaps between what his mind was processing and what his body was doing.

Right away we felt a big presence in this horse. Even with the methodical break, he held his path and rolled up between horses to challenge for the lead. His space awareness looked very good. And the other horses seemed to oddly respect him – an early sign of a monster Herd Dynamic.

Justify rolled through a first quarter in :21.80 and a half mile in :44.37. He is the type of horse who if you just watch him, without a stopwatch, you might not realize how fast he is going. Up by three lengths at the top of the lane, he ran six furlongs in 1:09.07 and he hit the wire in 1:21.86, 9 ½ lengths in front. His transitions and release points were seamless. Justify already was operating like a finely tuned machine on debut.

Trainer Bob Baffert removed the blinkers from Justify in his second start, one of our favorite developmental moves from this barn. When Baffert removes blinkers, he is tweaking the balance between efficient forward expression and energy conservation over distance.

Going a mile over a muddy surface, Justify had the outside post in a field of five. As in the debut, he did not break on top, but again he does not appear to be inefficient at the start. He doesn't rush. He showed no signs of anxiety standing in the gate or once it opened. And again his body control and space awareness looked on-point.

Justify is a fast-rhythmed horse in terms of the speed of his sensory system. He is quick to assess his environment, but his physical movement is methodical.

Justify took the first turn three-wide, with two horses inside of him and the leader briefly running off 2 or 3 lengths ahead. Justify showed patience here, effortlessly tracking fast early fractions. This horse does not need the lead. He was content platforming in a stalking position, pushing on the leader, then engulfing him on the far turn and drawing off to win by 6 1/2 lengths.

The path he held through the lane was a thing of beauty – perfectly straight, his sensory system clearing the way far out ahead of his body, showing no herd attachments to the vanquished colts behind him. He ran the mile in 1:35.73 and he did it easily.

As good as his first two races were, Justify was yet to be tested by an elite Herd Dynamic opponent. We got to see that test in the Santa Anita Derby (G1), where Justify took on Bolt D'oro, a battle tested, multiple Grade 1 winner.

Again we see a less-than-perfect start from Justify, but a quick, panic-free recovery. He took the lead into the first turn, with Bolt D'Oro and jockey Javier Castellano choosing to stalk him. Justify's ears were flopping as he opened up a comfortable lead on the backside.

As Bolt D'oro targeted Justify and made his first unsuccessful bid to take him down, Justify's ears tightened as he assessed the threat, turned on his IHD grit and intensified slightly. Bolt D'Oro was all-out, but he was not gaining ground.

Justify has a big egg of interpretation to be able to feel and interpret Bolt D'Oro without turning his head. This is not a run-as-fast-as-you-can for as far as you can speed horse. Justify has considerable Group Herd Dynamic awareness, and in the Santa Anita Derby he was learning to control his environment in new ways.

Mike Smith and Justify spun into the stretch in the 4-path, and Castellano steered Bolt D'Oro to the inside to try one more time to take Justify down. That was a crafty move, and Justify did hang on his left lead for a few extra strides as he interpreted the 'new' threat. But once Justify got to his right lead, it was evident he still had a lot of emotional power in reserve. His 1 ½-length lead at the stretch call expanded to 3 lengths at the wire.

Bolt D'Oro has the heart and ability of a champion. He tried very hard to take Justify down, but in the end he was turned back rather casually. Justify was running through space at a high rate of speed while making advanced GHD interpretations against a gritty, seasoned opponent. Justify passed a huge test in the Santa Anita Derby and he is likely to become stronger from the experience.

A bad draw or traffic can affect any horse in the Derby, but Justify appears well equipped to handle whatever is thrown at him. Justify is a fast, effortless mover with an elite Herd Dynamic. This is a versatile psychology, unlikely to be negatively affected by the presence of other IHD speed types in the Derby. Justify can make his own trip.

It is extremely rare to see this type of psychology paired with elite physical ability, converging at the right time. Justify is still improving, and he is our clear choice as the top-rated Herd Dynamic in this Kentucky Derby.

# AUDIBLE

Colt by Into Mischief—Blue Devil Bel, by Gilded Time



As we went over the videos of Audible's five career races, it was really interesting to see how he developed. The puzzle pieces looked a little scattered at first, but race-by-race they came together to form a very versatile, powerful pattern of motion.

Audible debuted at Belmont Park on September 27 against fellow New York-breds. He broke a little slowly and then gradually dropped out of the race. Not trying to hold any kind of tactical position or even stay attached to the herd, Audible was 20 lengths behind early!

Then the light bulb came on. Audible showed fabulous, intense emotional extension as he closed 15 lengths in the final 5/16 of a mile! Negotiating his way through traffic, he rallied for 3rd place, beaten 4 ¼ lengths while moving best at the wire.

He didn't win, but he went from a non-competitive, detached, Group Herd Dynamic mode into a very powerful and efficient Individual Herd Dynamic competing mode. This was a beautifully sustained long-range target and approach sequence.

After running his first quarter in :26 flat, he ran his middle fraction in :23-2, then his final 5/16 in :28-2! That is great late speed on the dirt. He came through for third place like he was having fun. He grew a ton there.

Audible again faced New York-breds in his second start. He was able to break his maiden, although this was his least impressive Herd Dynamic performance. In 6th place in traffic early, he was still green, looking herky-jerky and reactive as he learned to stay in the race from start to finish. He came with a wide, grinding rally to win by 1 ¾ lengths.

Trainer Todd Pletcher tried to get Audible on the turf in his third race, but it was moved to the dirt and scratched down to four horses. With Javier Castellano riding him for the first time, Audible responded to a hand ride early. He looked much more comfortable and smooth as he tracked the leader from second place.

As the frontrunner drifted out entering the stretch, Castellano moved Audible back to the inside. He passed and drew off to win by 9 ¾ lengths. Audible put all the pieces together there in terms of finding a competitive rating gear, environmental reads and sensory transitions. It was partly experience and maybe part the ride too, but it all converged here. This was Audible's launching pad race.

Audible made his three-year-old debut in the Grade 2 Holy Bull Stakes. He stumbled and bumped at the start, but his recovery was good. He corrected and stayed calm while getting position, settling into a high-revving GHD mode.

Audible stalked a solid pace but was able to conserve energy and then unleash it in the lane. His IHD transition was smooth and his burst was powerful. Running his final 5/16 in :29.92, he accelerated physically and had a ton of emotional energy at the finish.

Audible showed growth and additional versatility in the Grade 1 Florida Derby. Using just enough early lick to get over from the 8-post, he settled in 6th place on the back stretch, 10+ lengths behind the leaders, who were going way too fast for the distance.

Still in GHD mode, Audible temporarily was pushed back to 8th place as Hofburg made an early move inside of him. Rider John Velazquez asked Audible to pick it up, and he made a preliminary tactical move. Gradually advancing through the herd, Audible struck the front at the top of the lane, with Hofburg in hot pursuit behind him.

After he hit the lead, Audible needed to have additional gears to win the Florida Derby, and he had them. He burst away from Hofburg again and scored by three lengths.

Audible is capable of making two moves within a race or one big sustained move with long-range target ability. He is a big finisher for a high-revving GHD horse. Horses capable of executing this pattern of motion over distance are rare, as it requires sensory efficiency and a deep well of emotional energy.

There is a ton of athleticism and psychological versatility here, and Castellano is the perfect rider to take advantage of it.



# MAGNUM MOON

Colt by Malibu Moon—Dazzling Song, by Unbridled's Song

It's not often that we find an elite physical paired with an elite Herd Dynamic, and it's even rarer to find multiple horses in a single race.

Magnum Moon is a double qualifier. This is a very fast horse with a very special herd dynamic. But there is one quirk – in all of his races Magnum Moon has drifted out after he cleared the herd.

In the Arkansas Derby he veered out seven paths in the lane, completely out of the head-on camera's view! We dug into his race videos to try to figure out what we are dealing with.

Magnum Moon debuted less than five months ago in a six-furlong sprint at Gulfstream Park. His break from the gate was nearly perfect. He showed a really nice balance of Group Herd Dynamic Awareness and Individual Herd Dynamic competitive energy.

He ran his first two quarters in :22.68 and then :22.82, with his body and tail relaxed. His sensory system can clear space far out in front of him even at sprint speed. His sensory transitions looked smooth. He won by 4 lengths while drifting out about four paths in the lane.

Trainer Todd Pletcher shipped Magnum Moon to Tampa for his next start, stretching him out to two turns. This was a great idea to give him another practice run while he learns to distribute his energy over a longer time in motion.

It is easy to fall into open space from the outside post, but Magnum Moon was efficient. That tells us that he has efficient natural guard rails.

This was a patient ride from Luis Saez. Sitting 4th we can see his environmental control and Herd Dynamic power. This is a confident horse who possesses psychological versatility.

As he tracked the three horses in front of him, none of those horses were individuals to him. He was playing the role of lead stallion pushing a herd of bachelor colts, directing their movement. Magnum Moon would be an elite stallion in the wild.

As Magnum Moon took the lead, he left a wake of energy behind him. The other colts deferred, then reshuffled to try to find who could finish second. Magnum Moon hit the lead fairly late and won by two lengths. He drifted outward a couple paths as he took over.

Next, Magnum Moon stepped up in class to the Grade 2 Rebel Stakes. He encountered some bumping at the start but he stayed forward and owned his space. This colt uses his HD power to get position at the start.

Sporting Chance tried to move up outside of him early, and Magnum Moon did not let him by. In the lane Magnum Moon was again without peer, winning going away by 3 ½ lengths.

After he cleared the herd, he veered outward about 4 paths. He did correct, and he didn't lose much if any physical pace, but it does take longer to move diagonally to the wire than straight at it.

Magnum Moon's final prep came in the Grade 1 Arkansas Derby. The stronger he gets and the more he does it, the sooner he wants to establish herd leadership.

This is the first race in which Magnum Moon led from start to finish. He showed fabulous ear articulation on the lead early. He was surveying and controlling his environment. Despite the appearance of an IHD speed pattern of motion in this race, there is still a strong underlying GHD here.

As soon as Quip challenged Magnum Moon for the lead, he pinned his ears and fought back. None of the other colts got close enough to look Magnum Moon in the eye.

As he opened up on the lead mid-stretch, Magnum Moon floated wide rather dramatically. Even with the excessive lateral movement, he finished very strongly, full of emotional energy. He was accelerating late, drawing away at the finish. He ran his final furlong in just under 12 seconds. We have no concerns about Magnum Moon getting the Derby distance.

We think Magnum Moon's habit of floating after he clears the field is a result of him wanting to lead his herd at all times.

GHD provides sensory balance to a horse. Magnum Moon is losing his GHD awareness when he opens up in front. So far it has only come into play when his sensory focus is shifted backwards and he no longer has any herd members within his egg of interpretation. He is seeking to identify where the other horses are as he drifts out. We have never inspected Magnum Moon, so we don't know if he has a sensory hole in his rear field awareness.

If there is a hole, no horse or environment has been able to exploit it. But still, the Derby is the ultimate pressure cooker. To be safe, we would advise his rider to be patient and stalk the pace like he did in the Tampa race. The longer Magnum Moon is the hunter, and doesn't put himself in a position to be the hunted, the less likely this could hurt him.

Other than this specific situation, Magnum Moon has shown zero herd dependencies. He runs straight as an arrow as long as he has horses in his egg. He has dominated his competition physically and mentally. He will try to do that again in Louisville in the biggest test of his life.



## BOLT D'ORO

Colt by Medaglia d'Oro—Globe Trot, by A.P. Indy

There is a chance we saw the torch passed from one great colt to another when Justify defeated Bolt d'Oro in the Santa Anita Derby (G1).

We had tremendous respect for Bolt d'Oro coming into the race. Good Magic may have edged him out in the voting for Champion Two-Year-Old Male, but Bolt has the physical ability and Herd Dynamic of a champion.

It didn't take long to see that Bolt was up against something like he has never seen before at Santa Anita. As he was tracking Justify, hunting him, Bolt was actually burning more emotional energy than Justify, the IHD-speed horse. Bolt was working very hard, extremely focused, to remain in competitive position and launch an attack.

Meanwhile, Justify was using casual Group Herd Dynamic oblique feel to keep tabs on his pursuer.

Bolt tried to take Justify down twice – once on the far turn, and then again when maneuvering to his inside through the lane. His effort was super intense and impressive, as it always is. But he simply wasn't good enough to crack Justify. He gave everything he had, and Justify was still pulling away at the end.

The Santa Anita Derby was the third consecutive race in which Bolt failed to cross the finish line first, and we wonder when these efforts are going to catch up to him. When you try as hard as this horse does, losing can be tough.

At least in the San Felipe Stakes (G2), he did not suffer a Herd Dynamic defeat. In that race Bolt D'oro hooked up with McKinzie, a previously undefeated Grade 1 winner and fellow elite Herd Dynamic.

Those two engaged in a physical battle, trading bumps at the head of the lane, battling the length of the stretch and then coming together again before the wire. McKinzie had his head in front at the finish, but he was disqualified by the stewards for coming out and bumping Bolt D' Oro repeatedly inside the final sixteenth. On Herd Dynamics, we called it a draw between two big-time heavyweights.

On the head-on view we saw that Bolt held his path very well through the lane after the initial love taps. Bolt doesn't mind contact and does not overreact to space infractions. He is intense, forward, and tenacious. Pair that with a great distant target focus, and you have a horse that has the tools to handle a variety of challenges the Kentucky Derby might throw at him.

Going back to his two-year-old season, Bolt d'Oro debuted with blinkers. He broke a little slow at the start – he does have a little hitch in many of his gate breaks -- and then jockey Corey Nakatani really got into him hard.

Bolt responded fearlessly, bulling his way through tight openings, brushing against horses and pushing them aside to get to the front. He bumped one horse out of his way, then had another run into him and knock his hind end sideways. He still kept coming forward and won. This is a tough, game horse with a great forward focus, and he is willing to do whatever his rider asks.

We will always wonder what Bolt d'Oro would have been like if he was developed without blinkers. Even wearing them, there is clearly a proficient, underlying Group Herd Dynamic awareness.

His forward projection is way out in front of his body wearing blinkers. He put that to good use in the Del Mar Futurity (G1) when he started a little slow and was sandwiched and pushed back to 8th place early. He launched a relentless 5-wide rally on the turn and got by them all to win by  $\frac{3}{4}$  of a length.

Stretched out to two turns in the Frontrunner Stakes (G1), Bolt took another step forward, showing smooth release points and body control as he beat Solomini by 7  $\frac{3}{4}$  lengths. He did what it takes to win his sprint races, but he is an even better, more natural router.

Bolt d'Oro had an almost impossible trip in the Breeder's Cup Juvenile when caught at least 5-wide on both turns. He finished third behind Good Magic and Solomini while giving another honest, intense try.

Bolt has put together an impressive string of efforts from age two to three. He is the definition of heart and grit. When you couple how much energy he puts into his races and the two tough fights he just came through, there is a battle of attrition going on here. There is only so much gas in every horse's tank, and we wouldn't be surprised if his downward slope is coming. So far, he never has failed to answer the bell.

Bolt certainly has the Herd Dynamic profile to win a Kentucky Derby. He was second best to Justify at Santa Anita, and one-on-one, we wouldn't like his chances in a rematch. But the Kentucky Derby is far from a match race. This is a chaotic, 20-horse field full of talented, competitive horses. Justify has considerable new environmental factors that could gnaw away at him in Louisville, and that is Bolt's best hope to take back the throne.



# HOFBURG

Colt by Tapit—Soothing Touch, by Touch Gold

Hofburg enters the Kentucky Derby with a light resume but a promising, upward trajectory to his Herd Dynamic.

A February foal by the great stallion Tapit, Hofburg debuted September 2 at Saratoga going 7 furlongs. He did not receive Lasix treatment, and there are quite a few indications that trainer Bill Mott approached Hofburg's debut more as a learning experience than an attempt to win.

When the gate sprung open, Hofburg was caught a little off guard. He hopped and then his body went sideways and drifted in. Last of 10 early, rider Irad Ortiz Jr. guided him to the outside. Hofburg's reactions to herd chaos were exaggerated as horses veered out toward his path.

He took the turn 4 or 5 wide while making a little mid-race move (23-flat second quarter) to get within 4 lengths of the leaders.

Stuck on his left lead for the first half of the stretch run, Hofburg eventually switched to his right lead and did some good work late, straightening out and running with better forward efficiency through the wire. He outfinished his closest competitor by a neck to finish 4th, beaten 9 lengths. Although he was no threat to win, Hofburg improved his herd position while winning his immediate space at the wire – a positive thing to build on.

Hofburg was green, exhibiting guarded, at times delayed transitions. In the face of new sensory challenges, he certainly leaned on his Group Herd Dynamic awareness. Under stress you often see who a horse is, and here we saw a high-revving GHD horse who absorbed his environment and mentally got better as the race went on.

That was it for Hofburg's two-year-old campaign. Lasix was added when he returned as a three-year-old at Gulfstream Park on March 3. Hofburg had the outward 11-post – a terrible starting slot going 1 1/16 miles at Gulfstream.

Rider Jose Ortiz urged him out of the gate, but he was still caught 5-wide into the first turn. Hofburg looked more efficient at the start. His awareness and body control looked much tighter as he worked out a stalking trip from 6th place.

Wide again on the far turn, Hofburg attacked the leaders. He easily put away Travelling Midas then drifted out as he held off Just Whistle to post his maiden win by a half-length.

Although he got away with losing forward efficiency late, Hofburg did a whole bunch of impressive things to win this race. He was put in a series of challenging herd dynamic positions, but he never panicked. Hofburg can operate in a high-revving, competitive GHD mode while conserving emotional energy.

Hofburg's maiden win was a great step in the right direction, but most importantly he built on it again in the Florida Derby (G1).

With his rider taking a more patient approach at the start, Hofburg relaxed in GHD mode, 15 lengths off a hot early pace. He advanced on the backstretch but had to stop and wait inside of the winner Audible. Hofburg did a good job platforming and re-igniting from that position when guided wide on the far turn.

Hofburg shows a natural willingness to extend forward and compete for space, but he waits for his rider to tell him when to go. The early move did not pay off here, as Audible still got first jump on him, and Hofburg was unable to run him down late. But this was great practice for a race like the Derby, where a stretch running horse will often have to make a mini-move through traffic, wait, and then come running with his best.

The stretch run of the Florida Derby was interesting. Hofburg was directly behind Audible at the head of the lane, angled out for room, then had Audible drift out in front of him again. Audible was clear – there was no interference – but we like the way Hofburg finished the race. Hofburg was still extending his stride and projecting himself forward through the wire, even with a horse in his path.

Hofburg is far from the most flamboyant entrant in this year's Derby field, but he does things with purpose and grit. He has good, consistent energy distribution, and a gutsy, relentless side to his personality.

Hofburg has the sensory tools to suggest he just might be able to handle the scene in Louisville, and we think this improving colt is promising on the stretch-out to 1 ¼ miles.



## GOOD MAGIC

Colt by Curlin—Glinda the Good, by Hard Spun

Good Magic was crowned America's champion two-year-old male last year on the basis of one race – his 4 ¼-length victory in the Breeder's Cup Juvenile (G1). He ran flawlessly that day at Del Mar, but he has only performed at that Herd Dynamic level once.

Good Magic has two primary operating modes. He uses a high-revving Group Herd Dynamic during the early and middle portions of his races when he is moving within the herd. And he has a gritty, close-space-fighting Individual Herd Dynamic that kicks in when he is asked to run (by his jockey) or when he is challenged by another horse.

His best races come when he is able to use his GHD to conserve energy and launch into IHD from an advantageous position (attacking weakened frontrunners while getting the jump on deeper closers).

In his debut race, Good Magic dueled with and got turned back by a good, but certainly not great horse named Hazit. Good Magic was basically in an IHD sprint battle from start to finish in his debut. That is not his best game.

Trainer Chad Brown entered him in the Grade 1 Champagne Stakes off that debut loss. Good Magic improved to finish second in the Champagne, though he was run down late by Firenze Fire after taking the lead. The Champagne was a positive race for Good Magic in that he used his GHD and IHD in sequence; he found his pattern of motion.

He looked a little reactive when travelling in GHD in traffic early, but he filters out (becomes more efficient) after some time in motion. As he became more comfortable in GHD, his forward focus started to kick in and he started thinking about advancing.

Once he took the lead, his sensory lead change in IHD was interrupted. He felt Firenze Fire coming and drifted inward while visually focused on his challenger to the outside. There was some sensory drag and reactivity there. If that battle had continued another furlong or two, Good Magic might have re-rallied.

Brown made a bold move when he shipped this maiden across the country for the Breeder's Cup, and Good Magic rewarded him by taking a huge step forward.

Good Magic was more efficient out of the gate, and he found a better, more fluid GHD rating gear early. His forward extension looked very powerful in the Breeder's Cup.

He worked out his high-revving, GHD stalking trip while covered up right behind the leaders. And he got his IHD transition right this time, exploding into forward space turning for home, with no rear drag or sticking points. Good Magic got a great trip in the Breeder's Cup, and he executed his pattern of motion perfectly.

When Good Magic returned at age three in the Fountain of Youth Stakes (G2), he was not quite at the same level. He appeared to get the GHD rating part right – working out a good stalking trip. But his IHD transition was not strong. In striking range for the win, he ran his final 5/16 in :32 flat (very average) while losing ground to the winner Promises Fulfilled. Perhaps physical fitness played a role.

Good Magic took a step in the right direction when winning the Blue Grass Stakes (G2). After falling to the outside at the start and bumping, he found a good stalking position. Again we see him gradually filtering, his forward focus strengthening over time in motion.

Good Magic built into his IHD attack while moving wide from 5th place at the top of the far turn to the lead at the head of the stretch. He didn't quite bury the (physically) tiring leader Flameaway, but he did enough to grab herd leadership and post a 1 ½-length win. In late stretch he appeared to jump a shadow and/or switch leads, around the same time one of his only pursuers Sporting Chance bolted to the far outside. We wonder what this race would have looked like had an elite Herd Dynamic horse been present to challenge him.

Good Magic has a nice overall profile. We like his pattern of motion, and he appears well designed to get 1 ¼ miles.

His IHD power looks good, but not consistently elite in terms of power and efficiency. He is single-target focused, and that includes space infractions while moving in GHD. He is gritty and fairly good at holding position within the herd, but his single-target orientation makes even his GHD reads very tight to his immediate space.

Good Magic has been learning in pieces and he is still trying to get back to his best day. Practice really helps him, so we suspect the Derby is going to be another learning experience. We see Good Magic as a very legitimate contender but a bit of an outsider for the win.



## NOBLE INDY

Colt by Take Charge Indy—Noble Maz, by Storm Boot

There is a lot to like about Noble Indy. He is an Individual Herd Dynamic speed horse who does a lot of things very well, and he finishes strongly.

Noble Indy debuted at Gulfstream Park on December 3. He stumbled slightly at the start, but quickly got over from his outside post and found his rhythm. He has a nice IHD rating gear and looked relaxed on the lead.

Showing alacrity in the areas of multi-tasking and environmental awareness, he tightened up when challenged on the turn and went into full IHD competing mode. He put away those other horses very quickly. By the time he hit the wire  $8\frac{3}{4}$  lengths in front he was relaxed again.

Our notes from his debut were full of positive observations. Noble Indy is naturally forward and fluent. He showed efficient sensory lead changes and good body control. He appeared to have a nice Group Herd Dynamic base to support his overall IHD slant.

Trainer Todd Pletcher kept Noble Indy in the allowance ranks for his second start. Pinched at the start, but not affected, he held his path and got to the front. He was matching rhythm while dueling with Mississippi. Noble Indy has a nice IHD rating gear even while competing.

We like his cruise control, as he does not appear to use any extra energy. He appears to be in charge of his emotional energy distribution more than most IHD speed horses.

He beat Mississippi by  $\frac{3}{4}$  of a length physically, but on Herd Dynamics he was much the best. This race at  $1\frac{1}{16}$  miles was not taxing to him. He holds a nice straight line even when fighting for space. Noble Indy sustains physical pace very well.

Noble Indy suffered his first and so far only loss in the Risen Star Stakes (G2). Pinched back on the first turn, he had to sit behind horses for the first time. Held up behind a slow pace and between horses on the far turn, this should have been a good learning experience.

Guided back to the inside in the lane, Noble Indy accelerated physically (final  $\frac{5}{16}$  in :30.09 after a third quarter in :24.98) but that wasn't enough to catch Bravazo. He did win his space, holding off fellow Derby entrant Instilled Regard for 3rd.

We thought this was good run overall considering the trip he got while rising in class. Noble Indy's maximum efficiency will be when he is allowed to use his emotional rating gears and his physical speed together.

Pletcher decided to add blinkers for the Louisiana Derby (G2), and we have split opinions on this move. Blinkers will help Noble Indy get the trip he wants, squeezing him more forward. But they do risk compromising some of his GHD awareness, could make him more one-dimensional and there is always the chance of shortening his distance ability. On the positive side, Noble Indy was far above average in those areas to begin with. Maybe the balance will work.

Noble Indy stumbled at the start of the Louisiana Derby, perhaps a result of losing some of his GHD awareness with blinkers on, but we can't say for sure.

He pressed a fast early pace for the distance of :22.97 and :46.61, put away the cheaper speed and opened up through six furlongs in 1:11.47.

In the lane, Noble Indy was actually passed by GHD closers Lone Sailor and My Boy Jack, but he found another gear and commenced a re-rally. His dogged, gritty IHD energy was stronger than that of his opponents and he won by a neck.

Lone Sailor and My Boy Jack had clean runs at him, and Noble Indy turned them back despite a race shape that favored off-the-pace types. That is a sign of Herd Dynamic strength.

Noble Indy is a very solid athlete both mentally and physically. He has a good shot to handle the scene in Louisville and get the Derby distance.

We would have preferred to see how he developed without the blinkers, as they could make him a little more one-dimensional. But we still like this his efficient, gritty profile.

A big question is how many other IHD speed horses will he have to defeat in the Derby and what will that leave him with to hold off any GHD late runners? We give him a longshot's chance at the win.



## MENDELSSOHN

Colt by Scat Daddy—Leslie's Lady, by Tricky Creek

When Mendelssohn won the UAE Derby (G2) by 18 lengths, lowering the track record by more than two seconds, he stamped himself as a legitimate Kentucky Derby contender.

In the past we have profiled horses from the Dubai path that might possess the mentality to compete against the Americans going 10 furlongs in Louisville, but we have never seen a horse that might actually have a speed edge and is bred to do this. According to all the speed-figure makers we trust, Mendelssohn is one of the most physically gifted horses in this year's field.

So the question is -- does Mendelssohn have the mentality to win the Kentucky Derby? While we can't completely rule out a history-making win, we think the answer is probably not.

Mendelssohn turned into a different horse when trainer Aidan O'Brien added blinkers following a last-place finish in the Champagne Stakes (Eng-G2) at Doncaster last September. We watched that race and saw a horse who had tactical position but was searching in Group Herd Dynamic mode. He looked a bit lost – unsure of his place within the herd and uncomfortable in his environmental reads. He had no response when the other horses shifted into higher gears.

In his first blinkered race, the Dewhurst Stakes (Eng-G1) at Newmarket, Mendelssohn was almost coming out of his skin as the rider took a hold of him early behind stablemate U.S. Navy Flag. Mendelssohn wanted to do one thing – express himself into forward space. When he was allowed to go, he ran on for a good, hard-trying second behind his stablemate.

Mendelssohn showed he was a good fit for American racing when winning the Breeder's Cup Juvenile Turf (G1). He broke from the rail like a shot while under urging from jockey Ryan Moore. Wearing blinkers, Mendelssohn is extremely forward, high-revving and IHD-shifted.

Moore got him to rate just off the leader's heels. Being covered up along the rail helped him conserve emotional energy and it simplified his trip from the psychological standpoint. It was a fairly quick pace for a turf race, and that suited Mendelssohn just fine. Eased out from behind the pacesetter in the lane, he burst into open space and won in a drive.

Mendelssohn returned at age three in the Patton Stakes, run on a synthetic all-weather track at Dundalk. Working out a slightly similar trip as in the Breeder's Cup (though on a far different track), he looked a little more relaxed early, then produced the winning run when asked. Mendelssohn holds a nice straight line when in a drive – he runs like an arrow.

The Patton was a prep, and he won it in workmanlike fashion. Mendelssohn took a monumental step forward in the UAE Derby (UAE-G2), his first race on dirt.

Moore sent him at the start and rode him to keep the lead. As it turned out, Mendelssohn always had more gears than the horses chasing him. The blinkers, which appear quite restrictive on video, extend his mind far out in front of his body. He was just powering forward, eating up ground. He is a beautiful mover on dirt.

It is a huge positive for Mendelssohn that Moore chose to come with him to Louisville. He is world class, and he knows this horse and how to help him get his best trip. GHD and environmental reads are not Mendelssohn's strong suit. He needs leadership from his rider.

O'Brien is one of the best trainers in the world, and we doubt he puts blinkers on horses who don't need them. Blinkers have isolated Mendelssohn's physical talent, while likely blocking some weakness. The net result has been extremely positive.

His new psychology is strong and competitive, but we don't know how versatile it is. Any kind of early traffic trouble could be his undoing unless there is more GHD efficiency than we have seen on tape.

Horses with holes in their psychology don't normally win the Kentucky Derby, regardless of how fast they are. And it's not just in the running of the race where a tiny hole can blow wide open. Many horses leak emotional energy long before this race is run. We think a key to Mendelssohn's performance will lie in how he handles the pre-race environment, when he does not have the ability to filter through high-speed movement. His emotional state before the race will have a lot to do with his sustainability during it.

There is no question Mendelssohn has the physical athleticism to win this race. But the natural horse here is more physically talented than he is mentally efficient, and we don't trust that profile in the Derby.



## VINO ROSSO

Colt by Curlin—Mythical Bride, by Street Cry (Ire)

Vino Rosso's pattern of motion reminds us of a locomotive – not a high-speed rail, but more like a cargo train that keeps chugging along at a steady rate.

Given the right field, enough time in motion and a good ride, he can outlast his opponents. That is exactly what happened in the Wood Memorial Stakes (G1), which Vino Rosso won to earn his spot in the Kentucky Derby.

The Wood featured a runaway leader who set a hot early pace for the 1 1/8-mile distance. That race shape can favor a grinding, staying type like Vino Rosso.

The next thing that caught our eye was the way John Velazquez rode Vino Rosso. “Johnny V” was hustling Vino Rosso early and often. For many horses, asking for run that early in a race could result in an ill-advised energy expenditure. But Vino Rosso is a methodical beast, and having ridden him in all his career starts, Velazquez probably knew it was safe to step on the gas pedal early and often to get marginal increases in output.

Wide and in 7th place through the first turn, Vino Rosso advanced to 4th place as the field hit the top of the far turn. Moving 4-wide, he put his head in front turning for home. Enticed tried to go with him to the inside, but Vino Rosso had superior momentum.

This was Vino Rosso's second race with blinkers on. His first race with blinkers (the Tampa Derby [G2]) was an adjustment race that saw him searching, chugging along behind horses until very late.

In the Wood, trainer Todd Pletcher got better results: lowering Vino Rosso's head, channeling his grinding energy forward and removing the drag from his obliques. He made progress on his target approach, but he can still get better in that area.

There was an inquiry/objection in the Wood regarding Vino Rosso bumping with runner-up Enticed down the lane. That contact was likely a product of Vino Rosso's decreased space awareness wearing blinkers. He wasn't doing it out of malice or even competitive energy. He simply didn't know exactly where Enticed was. Under a left-handed whip from Velazquez, Vino Rosso straightened out late and drew off to win by three lengths as much the best. His finishing energy was good, and his ears shot forward on the gallop out.

There are some things to like about Vino Rosso trying 10 furlongs for the first time in the Derby. He also doesn't strike us as a nervous horse. He has some grit to his personality, and a longer distance will give him added time to filter and dial in.

Blinkers have simplified Vino Rossos' sensory interpretation process, which was a bit rough and rambling in his early races. For an example of why Pletcher added blinkers, watch the stretch run of the Sam F. Davis Stakes (G3). Vinno Rosso was hesitant to run at Catholic Boy and Flameaway. He had an opportunity there to attack two horses who were hooked up together. That's essentially a single target and there shouldn't be much pushback, but Vino Rosso was a little high-headed and apprehensive, only getting into their space just before the wire.

While we like his classic distance profile, we think there is a good chance some of his old habits could re-emerge in the chaos of the 20-horse Derby field. Vino Rosso is a Group Herd Dynamic horse with a slightly slow filtration process. This is not a horse with a lighting fast sensory system who can easily hit tight, rapid-fire gaps.

Vino Rosso took a step forward in the Wood Memorial and could be on a growth pattern. His classic distance profile looks fine, but we do not rank him with the elite herd dynamics in this field at this time.

# SOLOMINI

Colt by Curlin—Surf Song, by Storm Cat



Solomini is a physically gifted, hard-trying horse who possesses some serious mental inefficiency.

The first clue to what we are dealing with came when trainer Bob Baffert outfitted Solomini with blinkers and a shadow roll for his debut at Del Mar last September. That's a lot of equipment for a first race, and we would bet there is a good reason Baffert did it. He probably saw an underlying inefficiency or lack of focus in Solomini's early training.

High-headed while stalking the pace, Solomini looked a little frantic. In the lane he looked green while misfiring on his sensory lead changes. When Solomini is doing one thing, and then he has to do something else or interpret something new, he gets stuck mentally. He won his debut regardless. This is definitely a talented physical horse.

Elevated to Grade 1 company in the Frontrunner Stakes, Solomini looked much better until it came time to transition into IHD in the lane. In third place and in striking range, Solomini struggled to choose a path and target forward. He became body language expressive, and his action looked higher and more demonstrative. The much smoother operating Bolt D'oro cruised away to win by 7/8 lengths.

In the Breeder's Cup Juvenile (G1), Solomini worked out a trip that might represent his best chance – pressing the pace in the clear, with limited need for transitions. But even in that scenario he was throwing his head on the backside while alongside U.S. Navy Flag. It looks like Solomini gets stuck mentally and he instantly becomes uncomfortable (while moving at full speed).

Solomini internalizes and becomes expressive when he is struggling to interpret his environment, including messages from his rider. It definitely hurts his forward efficiency. He couldn't match strides with Good Magic late but he finished a clear second in the Juvenile.

In the Los Alamitos Futurity (G1) Solomini looked out of sorts again when asked to change leads and attack Instilled Regard and McKinzie in the lane. There was a long delay there because of his choppy, drawn out sensory lead change.

He eventually caught up to the leaders but then veered inward and slammed into Instilled Regard, setting off a chain reaction of bumps. Solomini flipped back to his left lead and crossed the line in front, but he was disqualified and placed third. If he is crashing into horses in a five-horse field, we imagine there could be some trouble in the Derby.

This kind of inefficiency sometimes improves with practice, but Solomini has been remarkably consistent.

In the Rebel Stakes (G2) Solomini did a stutter step at the start. He looked startled, then quickly recovered. He worked out a good stalking trip behind the leaders, but his space awareness betrayed him when sizing up an opening along the rail.

Again we see his exaggerated head movement as he was trying to interpret his environment. Flavien Prat is a brave man to try to squeeze up the rail with this horse. He briefly had room, but it took Solomini too long to process the information. The gap tightened on him by the time he committed to going in. Shut off, he regathered his momentum and gamely held off Combatant for second. This horse tries very hard, and he does have Herd Dynamic power.

It looked like Solomini worked out an advantageous trip while out in the clear 4-wide in the Arkansas Derby (G1). But still he had problems in the lane. Wearing all this equipment, his Group Herd Dynamic awareness is poor.

Solomini has a single-target focus – this is no multi-tasker – and he really has to concentrate even to do that right. Sometimes he picks the wrong target, such as here when he was racing Combatant, who was rallying on his right oblique. Close-space stimulus can be a distraction for Solomini.

Solomini is far more physically talented than he is mentally efficient. But there is absolutely no quit in this horse. It is impressive that despite his mental shortcomings, he has never been out of the money in six career starts -- four of them at the Grade 1 level.

Solomini is a gritty competitor, and if the mental light bulb ever turns on, he is going to instantly improve by lengths. But his demonstrated sensory inefficiency and limited Group Herd Dynamic awareness is likely going to be trouble for him in a 20-horse Kentucky Derby field. Because of how long it takes him to interpret stimulus, he is unlikely to work out an advantageous trip, and this race more than any other exposes reactive, sensory-inefficient horses.



## FLAMEAWAY

Colt by Scat Daddy—Vulcan Rose, by Fusaichi Pegasus

Flameaway is an interesting horse with a very cool herd dynamic.

He has won at distances from 4 ½ furlongs to 1 1/16 miles on Polytrack, turf, mud, slop, and fast dirt.

The thing we like the best about him is the gritty, efficient way he battles in IHD. Flameaway can hold a drive for a long time, and just when he looks beaten, he digs deeper and fights back. Although he generally employs an IHD speed pattern of motion, this colt has a lot of depth and sensory soundness.

Our favorite race was his victory in the Sam F. Davis Stakes (G3) at Tampa Bay Downs. He almost got squeezed back at the start, but he owned his space and came through a tiny opening to grab the lead. Flameaway consistently shows good space awareness and body control.

He also has a legitimately strong herd dynamic. He was impervious to the pace pressure Septimius Severus tried to put on him. He put him away and sent him packing back to last place.

Remsen Stakes (G2) winner Catholic Boy pounced on Flameaway in the lane and had the lead. Pinned down on the rail, Flameaway calmly commenced a re-rally. He cocked his head to the side, looked Catholic Boy in the eye and pushed him a path outside. Then he gave him a couple small bumps near the wire as he re-asserted himself to win by a half-length.

Most horses have their emotional intensity dial turned all the way up soon after they engage in IHD combat. Flameaway retains an amazing amount of awareness and body control in IHD. You can get a half step on him, but if you leave the slightest crack in the door, he sees that light and is trying to come back in.

Flameaway showed off his strong finishing ability in his debut, but he really impressed us in his second career start in the Skidmore Stakes at Saratoga. This 5 ½-furlong race was taken off the turf and run over a muddy sealed track.

Flameaway didn't break on top – he generally wants to be forwardly placed – but he was not frantic to recover. After settling in a high-rev GHD mode back in 5th place early, he showed savvy energy distribution when able to unleash a very strong gear change late. He surprised us with that surge.

Flameaway's only off race occurred ironically at Churchill Downs in the Iroquois Stakes (G3). Checked behind the leaders early, he looked high-headed and out of sorts. This is the only race in which he never made a full transition into IHD competing mode. Something was off here.

We saw published reports in which trainer Mark Casse said Flameaway didn't like the kickback. The video evidence could be seen as confirming that theory, and this is something to keep an eye on. If he can't handle the kickback at Churchill, that makes his task that much harder on Derby day.

Something that would help Flameaway's chances greatly on Derby day would be a lot of rain. Just three weeks after his poor race in the Iroquois, Flameaway won the off-the-turf Dixiana Bourbon Stakes (G3) at Keeneland over a sloppy/sealed surface.

He won the Bourbon with a wide, pace pressing trip. He barely got up while in a cluster of horses, but he finished resolutely, showing off his ability to stay calm in situational chaos.

Flameaway's strong herd dynamic was evident again when he finished a hard-fought second in the Blue Grass Stakes (G2). Flameaway is a good, sound gate horse, and rider Jose Lezcano asked him to run early in order to clear from the #11 post. Flameaway got over, but he was immediately put under pressure by a keyed-up Arawak on his outside.

Arawak tried to press him hard through fractions of :23.55 and :47.40, but Flameaway showed off his Herd Dynamic power and grace under pressure. He put Arawak away before the six-furlong mark. (Arawak finished last.)

As soon as Flameaway tried to open up and get a breather, two-year-old champion Good Magic pounced on him from the outside. Flameaway dug in and tried to do to Good Magic what he did to Catholic Boy at Tampa, cocking his head and trying to look him in the eye. He wanted to get close to Good Magic, but that colt remained forwardly focused. He didn't take the bait. Flameaway couldn't influence Good Magic's motion; he met a Herd Dynamic peer there.

Although passed by the winner, Flameaway never quit. He ran through the wire with dogged resolve to finish second.

Flameaway has excellent intangibles. He is an honest, gritty horse who distributes his energy very well over time in motion. With the right trip – and especially if the track is wet/sealed -- he has a good chance to stay 1 ¼ miles.

With all the other elite IHD power and physical talent in this Derby, we are not sure that this race shapes up that well for him, especially if he can't handle kickback. Still, we expect him to compete honorably.



# BRAVAZO

Colt by Awesome Again—Tiz O' Gold, by Cee's Tizzy

Bravazo comes into the Kentucky Derby off the worst final prep race of any horse in this field, having finished 8th, beaten 21 lengths in the Louisiana Derby (G2).

He lugged out abruptly on the first turn and then again on the far turn while in 3rd place trying to mount a rally. He plummeted back through the field.

Bravazo appears to be a sensory sound horse and normally holds a perfect line. We think the issue was a physical one and likely painful to get him to react in that way. We don't think the Louisiana Derby is an accurate representation of his talent. Before that debacle, Bravazo was showing promising development as a three-year-old.

Bravazo was a good two-year-old, but his development was inconsistent. He looked completely unprepared in his debut, then like an old pro when he easily broke his maiden at Churchill Downs in his second start (adding Lasix). He then finished an ok second in the Breeder's Futurity (G1) in his first race against winners.

His third-place finish in the Street Sense Stakes was not a bad effort. A good gate horse, Bravazo broke perfectly straight. He is mentally forward, athletic minded and agile.

He (normally) holds a straight line and has good body control in a crowd. He doesn't seem to have pressure or anxiety from competing, and his transitions are sequential.

He took the lead turning for home in the Street Sense but got run down late. We liked that he kept trying even while being squeezed between horses. He has the mental desire to compete for space. He was trying to keep reaching forward, but his body was tiring. We give him credit for not giving up. That was not a herd dynamic beat-down by any stretch.

Bravazo finished his two-year-old campaign unimpressively with a 10th-place finish in the Kentucky Jockey Club Stakes (G2). He was checked early and perhaps too far back in 9th place. Bravazo is able to conserve energy even in IHD cruise control, so being really far back does not take full advantage of his abilities. Regardless, he didn't look like he was good enough at that point.

Bravazo returned at age three in an allowance race at Oaklawn, and took a very nice step forward. He showed some grit at the start when bumped and squeezed. He found himself in 5th place early, about 5 lengths back of a loose-on-the-lead Ezmosh (a talented but not stakes accomplished horse).

With a lot to do, Bravazo ignited with about three furlongs to run. Surging past horses while wide on the turn, he showed a nice clean release when emerging from the chase pack and targeting Ezmosh out front.

Those two pulled nine lengths clear of the third-place horse. In their own private duel, Bravazo wore down Ezmosh late to win by a neck. We really liked this performance by Bravazo.

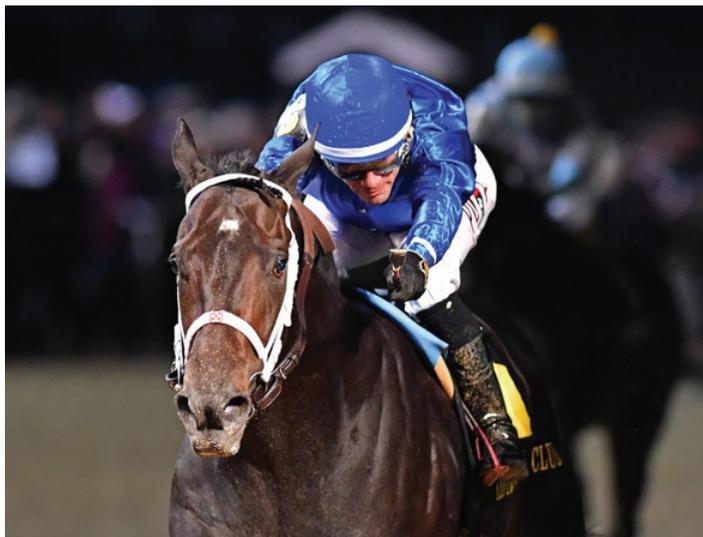
Bravazo stepped back up to graded company next in the Risen Star Stakes (G2). Forwardly placed at the start, he rated in IHD cruise control while pressing the pace. Running his final 5/16 in a very respectable :30.08, Bravazo got the better of Snapper Sinclair while holding off Derby entrants Noble Indy and Instilled Regard.

Bravazo was dogged and game and showed very good fluency in the Risen Star. This is definitely an athletic-minded horse.

Bravazo's progression in his first two races at age three was very good. Those performances don't place him on level with the Elites in this race, but his Herd Dynamic was on an upward trajectory before the mysterious backward move in the Louisiana Derby.

This is a good minded horse with a strong, competitive, balanced Herd Dynamic. From the emotional/mental standpoint, he might be ok going 1 ¼ miles on the big day. He distributes his energy well and doesn't waste it anywhere that we can see.

Bravazo will need to pick up where he left off in the Risen Star and take another step forward to compete here, but he does have some nice traits.



## ENTICED

Colt by Medaglia D'oro—It's Tricky, by Mineshaft

Enticed has an extremely interesting Herd Dynamic profile. We admire him in a lot of ways, though we don't think he is a serious threat to win this Kentucky Derby.

We have never seen Enticed in person, but on video he looks like a very big horse. We were impressed that such a hulking physical could win his two-year-old debut in a sprint, breaking from the rail, over a muddy course at Saratoga last September.

He showed some good Group Herd Dynamic feel in his debut, handling the environment well while stalking and pouncing for the win. We noticed he ran a little high-headed, but that is not unusual for a horse on debut.

As we watched the rest of his races, we discovered that Enticed runs a little head-high all the time. But interestingly, he does not show any of the behavioral over-compensations that are typically associated with high-headed horses.

Enticed is gritty and game. He does not shy from close contact. He has excellent forward focus and a long-distance target ability. His space awareness and body control look fine.

There is a chance the high-headedness is a product of his physical size and conformation. Maybe that is just how his body moves. The other possibility is that Enticed has some gaps in his sensory system, but he is just so darned game that he runs through them.

Following the maiden win, Enticed finished third in the Grade 1 Champagne Stakes. He stumbled slightly at the start and was blocked in traffic for part of the race, but his forward focus was very good. Enticed is a very visual horse, but you don't see him turning his head sideways very much. It's almost like he is wearing blinkers, but he isn't!

He also uses his big body and indifference to physical contact to his advantage. He couldn't catch up with Firenze Fire and Good Magic, but he fought hard to win the battle for third place over Kowboy Karma, bumping him a couple times before the wire.

Trainer Kieran McLaughlin bypassed the Breeder's Cup in favor of the Kentucky Jockey Club Stakes (G2), and that was a great example of giving a horse an achievable goal.

Enticed's ears were tight and his head a little high at the start, and he played bumper cars heading into the first turn. He was bullish and naturally very forward. His rating gear is a high-revving Group Herd Dynamic mode, not that far off of his IHD drive.

He head-bobbed Tiz Mischief for the win, building nicely on his third-place finish in the Champagne. This was a good battle and he did it in open space, with herd leadership on the line.

Enticed returned at age three in the Holy Bull Stakes (G2). As in his debut, he handled the rail well, and he stayed forward focused while in traffic. But off the layoff he simply wasn't in the same league as Audible. Enticed tired a little bit late and finished 4th, beaten 14  $\frac{3}{4}$  lengths.

They shipped him back up north to Aqueduct for the Grade 3 Gotham, and Enticed's class won out at that level. He slammed into the horse to his inside at the start and did a good job stalking a fairly fast pace before winning geared own.

Back up in class to the Grade 1 Wood Memorial, Enticed delivered another solid performance. He demonstrated his good forward focus, targeting the leader way out in front. His trip turned tricky when just as he was running at the tiring leader Old Time Revival, he got pounced on by Vino Rosso.

Vino Rosso crowded and bumped Enticed. He tried to fight back, but Vino Rosso had superior momentum. This was not a herd dynamic beatdown. There was no deferral. Enticed just wasn't fast enough.

The temptation when you see a big (apparently long-striding?) horse like Enticed is to think he can run all day. But his high head carriage is either a result of physical inefficiency or a clue that he is burning a little more emotional energy than he should while in rating mode. Enticed doesn't seem to have that many additional gears (physical or emotional) above his high-rev GHD.

Enticed is no herd dynamic wimp. He tries hard every time, but his track record so far is that of a Grade 2 horse within the three-year-old ranks. It might be worth trying him on turf somewhere down the road to see if he moves up, as we admire this horse's grit and class. We think Enticed will compete honorably in Louisville, but is unlikely to be good enough to win.

# INSTILLED REGARD

Colt by Arch—Enhancing, by Forestry



Instilled Regard has one of the best classic-distance profiles in this year's Kentucky Derby field, but we don't trust him in one extremely important area – Individual Herd Dynamic competing mode.

Instilled Regard is Group Herd Dynamic-based horse. He broke his maiden in his third race and first around two turns. Whereas he looked a little rushed sprinting, he was able to move within himself at route fractions.

Instilled Regard has some tools. He has good GHD awareness, is good out of the gate, and he is a good mover. He was actually in high-revving GHD cruise control while on the lead in his maiden win. He won off by 4 lengths easily.

Instilled Regard stepped up to the Grade 1 Los Alamitos Futurity (G1) in his fourth start. He rated from tactical position early. This is what we believe is his best pattern of motion. He really has a nice, fluent rhythm and stride when he is in GHD cruise control.

Instilled Regard moved 4-wide on the far turn. He got alongside McKinzie, and those two ran together the length of the stretch, with Solomini gaining ground from behind.

Watching the head-on, it appears that Instilled Regard was engaged with McKinzie but he felt the wild horse Solomini coming and actually tried to get out of his way. This told us some important things. It confirmed Instilled Regard's big Group Herd Dynamic awareness and that he has a deep rear sensory field. But, it also told us that when Instilled Regard should have been duking it out with McKinzie in IHD mode, focusing forward, he actually was worried about Solomini behind him.

That is not good for forward efficiency. Getting out of the way laterally is absolutely not the reaction we want to see. And not only did he react, he overreacted as jockey Drayden Van Dyke hit him with the whip right-handed at the same time. Pinballing between his opponents, Instilled Regard lost his forward focus and ran through the wire in 3rd place.

After that race, trainer Jerry Hollendorfer decided to put Instilled Regard on the Louisiana route to the Derby, and he won the first race in that series the Lecomte Stakes (G3) by 3  $\frac{3}{4}$  lengths.

Instilled Regard got his tactical GHD trip in the Lecomte and did everything right. He was very methodical, steady, straight and efficient.

Favored in leg 2 of the Louisiana series, the Risen Star Stakes (G2), Instilled Regard finished a slightly disappointing 4th. From the top of the stretch to the finish, Instilled Regard just didn't show a lot of desire to fight for space with those other colts. He only half-heartedly engaged in IHD and twice drifted in behind the horses he was supposed to be passing.

Instilled Regard's most recent race resulted in a 4th-place finish in the Santa Anita Derby, 10  $\frac{3}{4}$  lengths behind Justify. He tried a deeper closing pattern of motion. He looked good and relaxed in the Santa Anita Derby, but he didn't have a big enough move to compete for the win. When a horse doesn't have a ton of IHD power to begin with, you don't want to use it trying to cover a lot of ground and pass a bunch of horses. He will run out of energy, and that is what happened in the Santa Anita Derby. We were disappointed to see he didn't take out Core Beliefs for third.

We think Instilled Regard can run all day if he stays in GHD mode, but we question his conviction in IHD battle. He is likely to have to engage in some space battles to compete in the Derby and we don't see him wanting to do that. The longer he stays in GHD mode in the Derby, the better.

Somewhere down the line this horse could be worth trying blinkers on. It might add a little octane to his IHD engine that needs igniting.



## FREE DROP BILLY

Colt by Union Rags—Trensa, by Giant's Causeway

Free Drop Billy is a Grade 1 winner, but after re-watching his eight career races, it is hard not to think he has hit a herd dynamic ceiling.

Billy debuted early at Churchill Downs – on June 15 of his two-year-old season – and looked great. He hopped at the start and was pinballed between horses, but he quickly refocused. Billy kicked into IHD early and came with a really strong rally, deftly splitting horses on the turn, cleanly knifing through the herd. He won off by three lengths.

That performance required some high-level Group Herd Dynamic awareness, and he really had to tighten up his transitions in order to win after a troubled start at this 5 ½-furlong distance. Billy was up to the task in a very good looking debut.

Billy tried the Sanford Stakes (G3) at Saratoga in his second start. Bumped out of the gate, he wanted to attack early but he was behind horses and under a tight hold from Robby Albarado.

Billy got on the outside in the lane and came with a decent rally, but he couldn't go by Firenze Fire. This really looked like a herd dynamic defeat as Billy got up alongside Firenze Fire and hung.

That was the start of a low key but fairly entertaining Herd Dynamic rivalry, as these two would engage in heated stretch duels multiple times, although mostly for minor awards moving forward.

In the Grade 1 Hopeful Stakes, Billy again launched a promising rally, but his conviction to take herd leadership again looked just a little lacking. He really had trouble getting by Firenze Fire again, this time getting the best of his rival, but that battle slowed Billy's progression.

Still, he almost got an accidental win when the leader Sporting Chance ducked out drastically just before the wire. Billy finished second by a neck.

Free Drop Billy got his Grade 1 in the Breeders' Futurity at Keeneland. We give him credit for putting himself in a good position and taking what was given to him, but he basically inherited the lead when Ten City broke down on the far turn. Billy won by four lengths, beating Bravazo and Lone Sailor.

Next came a trip to Del Mar for the Breeders' Cup Juvenile (G1). Billy tracked the pace from the inside in 5th place. It was an aggressive, honest attempt to compete, but he was totally expended on the far turn. He finished 9th, beaten 29 lengths.

Free Drop Billy made his three-year-old debut in the Holy Bull Stakes (G2). He worked out a good trip, as he often does. This appears to be a sensory sound horse with a good Group Herd Dynamic. But he just couldn't quicken with Audible, who dealt him a Herd Dynamic defeat and ran away to win by 5 ½ lengths.

Billy deferred to Audible, but he ran a good race to finish a clear second. As is often the case, Billy looked game to a certain point, but he didn't sustain the promise of his mid-race move.

In the Gotham Stakes (G3) again we notice Billy is launching into IHD early for a GHD-based horse. He was already in his top gear, running with his ears pinned on the far turn.

And again Billy got stuck on Firenze Fire as he was trying to advance in the lane. These two are a fairly even match. Firenze Fire has a better Individual Herd Dynamic, but Billy might be a little more physically talented. Billy finished third, beaten 6 ¾ lengths by Enticed.

Billy's final race before the Derby saw Irad Ortiz Jr. jump on board him in the Blue Grass Stakes (G2) – his fourth rider – but the result was similar. Billy showed off his deft GHD with a nice, mid-race tactical move. Moving wide entering the far turn, Billy covered some extra ground.

Billy ran under the wire in 4th place, but he was awarded third by the stewards when another old rival – Sporting Chance—again drifted out badly through the stretch and fouled him. It certainly could be argued that Sporting Chance impeded Billy and cost him a placing.

Free Drop Billy has been extremely consistent through his career. We respect his effort and consistency. In his favor in the Derby, Billy has a high-functioning GHD and he is fluent moving through traffic (mostly during the GHD portions of herd motion).

He doesn't mind contact, but he also does not own his space or command much respect from high Herd Dynamic horses.

We are neutral at best on Billy adding distance. There is some evidence to suggest he doesn't want much more than a mile. On the other hand he was still trying to advance in the lane after a wide trip in the 9-furlong Blue Grass.

Regardless of distance, we don't foresee Billy competing for one of the top spots in this Derby.

# MY BOY JACK

Colt by Creative Cause—Gold N Shaft, by Mineshaft



Our award for doing the most with the least goes to trainer Keith Desormeaux, who bought My Boy Jack for \$20,000 at the Keeneland September yearling sale and won a pair of Grade 3 races to get him into the Kentucky Derby.

My Boy Jack is a sensory sound, Group Herd Dynamic-based colt. He is the most experienced horse in the field with 10 starts. Thanks to Desormeaux's training and his brother Kent's riding, My Boy Jack comes into the Kentucky Derby with a finely honed pattern of motion as his best weapon.

There is little doubt how My Boy Jack is going to try to run in Louisville. He will be in the back half of the field early, relaxing in GHD. And when Kent Desormeaux pushes the button, he will try to make one big run, passing as many horses as he can.

My Boy Jack spent most of his two-year-old campaign on the turf – running five times on the grass in Southern California. He was a very good, but not great two-year-old. After finishing second in his first three grass races, he broke his maiden in the Zuma Beach Stakes, a local prep for the Breeder's Cup Juvenile Turf (G1), run at Del Mar last year.

Because of his running style, My Boy Jack has a lot of wide trips on his resume. That was the case in the Breeder's Cup when Kent Desormeaux made an early, aggressive wide move. He didn't have enough horse power to pull that off, and My Boy Jack stalled in the lane, finishing 7th, beaten three lengths behind Mendelssohn.

While those five turf races did not end in Breeder's Cup glory, they gave My Boy Jack a ton of good practice.

Desormeaux moved My Boy Jack to the dirt in the Sham Stakes (G3) for his three-year-old debut. This was his first time routing on dirt, and he finished third, beaten 7 ½ lengths by McKinzie (a good horse who will miss the Kentucky Derby due to injury).

With just a six-horse field and a moderate pace, the Sham did not set up well for My Boy Jack's style. GHD-based horses generally perform better in bigger fields, and My Boy Jack is not the type of horse who is going to impose his will on elite colts that still have emotional energy left in the lane. My Boy Jack wants to stay out of the fray early, then run at horses who have been diminished by pace and time in motion.

After the Sham, Desormeaux shipped My Boy Jack to Oaklawn Park for the Southwest Stakes (G3), and he delivered a breakthrough graded stakes win in the mud. My Boy Jack found the tiring track, 10-horse field and a contested pace to his liking. He rallied strongly up the inside, getting a rail pass all the way to the lead. He drew off to win by 4 ½ lengths over Combatant.

My Boy Jack got to run at another fast, contested pace in the Louisiana Derby (G2). This time he had to go wide, and although he had a lot of momentum in the stretch, he hung late, just failing to catch Lone Sailor and Noble Indy.

The thing we did not like about his Louisiana Derby is that he got a great setup, but once he got a little physically tired, My Boy Jack stopped projecting forward.

In order to make sure My Boy Jack qualified for the Kentucky Derby, Desormeaux ran him in the Lexington Stakes (G3) at Keeneland on April 14. My Boy Jack executed his pattern of motion, and thanks to a strong ride from Kent Desormeaux, got the job done.

This performance was better than the one he delivered in Louisiana in that he sustained his IHD drive through the wire.

My Boy Jack runs a concise pattern of motion, and there is unlikely to be any deviation from it in Louisville. There are no holes in his sensory system holding him back, but his running style is environmentally dependent, and we don't think he is a Herd Dynamic powerhouse.

If this Derby features a hotly contested pace – which is entirely possible -- we think My Boy Jack can execute his pattern of motion. But he is a risk to not complete the task once he encounters any of the elite Herd Dynamics in this field who are going to push back.



## FIRENZE FIRE

Colt by Poseidon's Warrior—My Every Wish, by Langfuhr

Firenze Fire will be one of the longest shots on the board in this year's Kentucky Derby.

Virtually no one is giving him a chance to win this race. We generally agree with the public's assessment, but it has nothing to do with his psychology.

We have the utmost respect for this colt. He is a highly efficient, athletically minded horse who tries his best every time he is in the starting gate. If anything, you are looking at an over-achiever.

Firenze Fire had a good mental game from day one. Debuting June 18 at Monmouth Park in a 5-furlong dash, his sensory system was already operating very efficiently at high speed. He showed smooth transitions and clean release points as he ran by the frontrunner and drew off to win by 3 ½ lengths.

He handled a big class rise in his second start when shipped to Saratoga for the Sanford Stakes (G3). A very efficient gate horse, he settled in 4th place early. This is an Individual Herd Dynamic-shifted colt with a very proficient underlying Group Herd Dynamic base. He handles traffic and bumping well.

Firenze Fire has very smooth sensory lead changes in his GHD/IHD transition. He passes horses with no drag. This is also a very target-oriented horse, and he doesn't just run to a spot, he runs through it.

After taking over herd leadership in the Sanford, he had to defend against a late rally from Free Drop Billy. At this point in their careers, Firenze Fire was the stronger herd dynamic (these two have locked horns repeatedly). Billy got into his rear sensory field, but was more than content to run off Firenze Fire's hip. This was a solid Herd Dynamic win.

Firenze Fire next ran in the Hopeful Stakes (G1). He tried to execute his stalking pattern of motion, but ended up dueling with Free Drop Billy behind the leaders in the lane. Firenze Fire showed good close space engagement, but when Billy left him, Firenze Fire never switched targets to the leaders. He finished 4th.

Firenze Fire tried a one-turn mile next in the Champagne Stakes (G1), and we think that track configuration might be a sweet spot for him. He broke well from the gate, as he always does, but settled further back in 10th place early. That was a test of his GHD, and Firenze Fire passed it.

He commenced a really strong wide rally, and again we see how targets draw him forward. He was very focused on winning, so focused that he stayed on his left lead through the wire. He ran down Good Magic and beat him by a half-length. From the Herd Dynamic standpoint, the Champagne represents the apex of Firenze Fire's career so far.

When a horse is this good and efficient as a two-year-old, they are getting every ounce out of their physical body. There are no more mental layers to uncover. Improvement then relies on physical maturity. As his peers start to catch up with him mentally while also developing physically, a horse like Firenze Fire can lose his advantage.

We think that is what started happening when he finished 7th in the Breeder's Cup Juvenile (G1), beaten 20 lengths by an emerging Good Magic.

The Juvenile was Firenze Fire's first two turn race, and he worked out a fine trip. In 5th place, 3 1/2 lengths behind the leaders at the 6-furlong mark, he ran out of physical gears and was not able to assert himself in the lane. The Juvenile was the only race we have seen from Firenze Fire in which HE didn't think he might be the best horse at some point in the race.

We liked what trainer Jason Servis did when he gave Firenze Fire an achievable goal in the ungraded Jerome Stakes to kick off his road to the Kentucky Derby. Firenze Fire handled the mud well, showing good body control and resolve to run down Seven Trumpets just before the wire. It wasn't easy for him to get by, but his target draw helped and he had just enough gas in the tank to pull it off.

Stepped up a notch in class and distance in the 1 1/8-mile Withers Stakes (G3), he dug hard to try to run down Avery Island, but came up two lengths short. He might have reached his distance wall there about a sixteenth from the wire.

Firenze Fire faced better fields in his final two Kentucky Derby preps, and he finished non-threatening 4ths in both the Gotham (G2) and Wood Memorial (G1) Stakes.

He tried hard and ran efficiently in both of those races. He executed his pattern of motion and he was still of the mindset that he belonged in those fields. He also has done a pretty good job of learning to distribute his energy going two turns.

In the Wood he was behind a wall of horses for a significant time. That did not allow his targeting nature to pull him forward mid-race, and left him a lot to do late. He gave it everything he had, but he was losing ground on the winner Vino Rosso through the stretch while out-competing some of the also-rans.

They are running Firenze Fire in the Derby because he qualified on points, and this race is every owner's dream. Provided he doesn't shock the racing world and hit the board in Louisville or Baltimore, we'd love to see him re-routed to more achievable goals (and shorter races) in the second half of his three-year-old season. This horse is mentally efficient and he gives his all every time they lead him over.



# COMBATANT

Colt by Scat Daddy—Border Dispute, by Boundary

When we weigh and rank the Herd Dynamic power of each contender we of course have to look at all aspects of the athlete: the physical as well as the mental/emotional and see how their puzzle pieces align in the bigger picture of the field they are facing.

Regarding his ability to win the Kentucky Derby, we don't like Combatant's chances at all, thus this low ranking. But keep in mind if you are interested in his ability to rally through traffic and perhaps earn some sort of minor placing, he would rate higher.

The chart comment from Combatant's debut – "Bid 3-wide late, hung" – unfortunately hit the nail on the head, especially that last word.

We like Combatant as an athlete and many of the things he brings to the table regarding his Group Herd Dynamic abilities. But there is also this matter of competing against other horses to try to win the race, and in this area, in this race, we see serious cause for concern regarding his psychology.

Combatant consistently has been weak in Individual Herd Dynamic mode when trying to finish his races. His ratio of places (3) to wins (1) is no accident nor a product of bad racing luck. Combatant is adept when moving in GHD with the herd. He is uncomfortable and prone to disruptions when competing in IHD. He is not a natural herd leader.

Owing to his combination of good physical ability and GHD, Combatant has always been within 5 lengths of the leader at the wire. Sometimes he gets closer earlier but backs off from the stretch call to the finish. Looking at the sectional fractions in all his dirt races, he is losing velocity in the final stages.

Combatant has been an inconsistent gate horse, but at times he breaks quite well. In the Smarty Jones Stakes he broke excellent from the rail, and jockey Ricardo Santana Jr. actually had to take a big hold of him in order to get him to settle, which took a while. He chased Mourinho home and was easily second best. He finished three lengths back, closing ground but never actually getting into the leader's space. He was delighted to stay in that safe zone.

Combatant is not a deep plodding closer. Once he filters a little bit -- usually within a half mile -- he settles into an effective high-revving GHD cruise control that often puts him in acceptable tactical position.

He broke well again in the Southwest Stakes then settled in 7th place early. It looked like he was making a winning move when 5-wide in the lane, just a half-length from the front. Seeming to have good momentum, he abruptly bore in at the eighth pole. As Combatant lost his way, Myboyjack assumed the role of herd leader while surging up the rail. Combatant finished second, a non-threatening 4 ½ lengths behind the winner.

In the Rebel Stakes, Combatant put together a nice sequence to rally up the inside then angle out in the stretch. He had good energy and it really looked like he was competing and would finish second behind Magnum Moon, but Solomini re-rallied on him, pushing him back to third place.

In the Arkansas Derby (G1), Combatant made another menacing looking wide move, but due to some combination of ground loss and being intimidated by Solomini again, he could not sustain his energy through the wire. He finished 4th.

Combatant's GHD and good energy conservation might make the Derby distance itself a non-issue as long as he stays in GHD. But disruptions of rhythm when facing a serious space challenge from a strong Herd Dynamic opponent are likely to be an impediment to his success in this field.



# LONE SAILOR

Colt by Majestic Warrior—Ambitious, by Mr. Greeley

When we broke down the tape on Lone Sailor's races, we saw an extremely consistent but inefficient horse. He tries hard, but he is likely to be just a horse running with the herd in the Kentucky Derby.

Our notes from his first race indicate he was high-headed at the start and continued to exhibit pressure-up (instead of forward) tendencies. His sensory system was not interpreting very far ahead of his body, making him a bit reactionary to stimulus.

Those are not uncommon issues for a horse to have on debut, but the good ones usually improve quickly from experience. Lone Sailor continued to show negative efficiency traits through his most recent race – a neck loss in the Louisiana Derby (G2).

Lone Sailor is a Group Herd Dynamic horse and generally employs a stretch running pattern of motion. In the Louisiana Derby he got a near perfect trip, saving a lot of ground and getting to close into a hot pace. He actually took the lead from Noble Indy (who had a much tougher trip) inside the quarter pole.

The race was Lone Sailor's to win, but he lost efficiency immediately as he hit the front, drifting to the outside. Lone Sailor's sensory interpretation process has dependences built into it. He relies on the environment and the other horses to at least partly to tell him what is happening, buffering his sensory system from doing too much work. That is not unusual. It is what the majority of herd animals do to survive in the wild. But when you isolate him from the herd, his shortcomings can surface.

Noble Indy is a relatively high-level, Individual Herd Dynamic-shifted horse. In the presence of inferior Herd Dynamics, he WILL take the lead. And even though Noble Indy was tired, he sensed weakness from Lone Sailor, who was weaving laterally instead of taking forward space to assume the role of herd leader. That crack in Lone Sailor's armor was all Noble Indy needed to re-rally for the win.

One note for Lone Sailor's jockey. It is easy to overload this horse's sensory system. When a rider senses a horse is not moving forward as well as it should, the inclination can be to use whip harder or more frequently. That may not be the right answer for Lone Sailor.

In his race two back when he finished second to Dark Templar, Lone Sailor was again in position to swoop by for the win in the stretch. But as he approached the leading trio, he started to hang. Rider James Graham went to the whip, but Lone Sailor drifted to the outside instead of running by the leaders. He is prone to losing efficiency when he is asked to dig deep.

We see sticking points in Lone Sailor's target approach sequence in many of his races. Trainer Tom Amoss understandably tried blinkers in the Lecomte Stakes (G3). The blinkers pushed him forward but caused him to expend emotional energy in a non-sustainable manner. His mind was spinning, and he exhausted himself after six furlongs.

Despite a less-than-elite herd dynamic, Lone Sailor likes to compete, and he tries to run through his inefficiencies. The best thing we can say about his chances to sniff any money in the Derby is that his distance profile looks ok. Lone Sailor is capable of conserving emotional energy while travelling in GHD mode within the herd – that is what he wants to do. The longer his rider keeps him in GHD, the better.

But seeing how he came up short in his two most recent races – under more favorable scenarios -- it is hard for us to have any faith in him in the Derby.



## **BLENDED CITIZEN (AE)**

**Colt by Proud Citizen—Langara Lass, by Langfuhr**

If Blended Citizen draws into the Kentucky Derby off the also-eligible list, consider it a victory for an underdog horse who has come a long way after taking five starts to break his maiden, including a loss in a high-priced maiden claiming affair.

Blended Citizen is not a terribly fast horse, but he tries hard. He is a better physical athlete than he is a psychologically efficient one. But training, experience and a pair of equipment changes have gotten him going in the right direction.

In his first four starts Blended Citizen demonstrated a number of behavioral over-compensations that tell us his sensory system was not functioning at a high level.

He often lurched or fell sideways out of the gate, often into open space but also into other horses. Herd codependency is less dramatic when the herd is in motion. From a stop-to-start sequence, such as you have in a starting gate, you can see just how strongly a horse is reaching out for a little aid from the horses around him.

Blended Citizen struggled with his Group Herd Dynamic space awareness when trying to press forward into attack mode. This made him a horse that needs to be strongly driven and steered, as opposed to simply ridden.

At times, Blended Citizen moved with but not through the herd around him. His sensory system was not interpreting his environment as fast as his body was moving. This made him both codependent and reactive to the other horses. That held him back from true independent motion, which is necessary for physical optimization.

The addition of a shadow roll in race 5 corresponded with improvement for Blended Citizen. He still fell into the abyss out of the gate, but this time Blended Citizen was a bit quicker to regain his composure and return his emotional energy to the forward aspect.

As the race evolved and strung out, Blended Citizen started building momentum. He began to trust his jockey more. This progress manifested in a sustained IHD drive, showing solid continuation to get his first win.

Blended Citizen got his second win in the Jeff Ruby Steaks (G3) when adding more equipment. Blinkers revved up his emotional energy and sped up his psychological rhythms. With his senses more focused and condensed, Blended Citizen traveled deeper into the competitive IHD zone with the guide of his jockey Kyle Frey. He also appeared to move well over the synthetic track. He looked comfortable competing.

Blended Citizen won the Ruby Steaks with a nice, late rail surge, keeping himself in front of emerging horses who were rallying out in the middle of the track, which can sometimes be tricky. This was a good, improved performance.

Blended Citizen's final prep came in the Blue Grass Stakes (G1). Not surprisingly, he remained inefficient in the gate, falling into his old nemesis, the void to his right. And again he righted his ship soon after.

These are little things, but racing in Grade 1 company for the first time, it was good to see Blended Citizen confident enough to use his sense of feel to interpret the herd around him and trust the advisor in the seat.

He did a nice job establishing a cohesive rhythm through the body of the race, and he was willing to try as hard as he could when

during the stretch run the horses shuffled in front of him and he was asked to engage. There is nothing wrong with his 5th-place finish when you consider who he is and the journey he has been on.

From a herd dynamic standpoint, Blended Citizen is now a middle, to upper-middle psychology.

No one told him he wasn't supposed to be on the dance floor in Louisville and his coaching staff stuck with him, guiding and nurturing in the manner we are accustomed to seeing from trainer Doug O'Neill and his team. Should this also-eligible find his way in, we think his race record speaks for itself on where he likely fits amongst his opponents.

Blended Citizen may not run down the roses, but if he gets in, he will run the best race he can, and that is always worth a nod of appreciation.



## PROMISES FULFILLED

Colt by Shackleford—Marquee Delivery, by Marquetry

Promises Fulfilled is a fine athlete, shifted toward the Individual Herd Dynamic, with a fast-burning, competitive psychological rhythm.

IHD is a crucial component of the competitive horse, but without a buffering Group Herd Dynamic to platform and conserve emotional energy, you quite often run the risk of burning out in situational chaos over distance. That is what sometimes happens to Promises Fulfilled.

He is a competitor and his natural tendency is to engage fast and furious whenever a challenge is issued, be it at the beginning, middle, or end of a race. Hopefully for him, he has something saved for the end.

When it works out right, it looks something like the Fountain of Youth Stakes (G2). In that race Promises Fulfilled quickly established his place at the front of the herd. The key for him is that he slid into IHD cruise control without too much effort, and then can be geared down in order to conserve energy.

He looked comfortable on the lead in the Fountain of Youth. He didn't overreact to the push from Storm Runner and he held on to his steady-as-she-goes rhythm even as Strike Power hovered off his hip. Promises Fulfilled conserved emotional energy for the stretch run by finding a lower revving IHD cruising gear.

With this kind of trip, he only had to manage the herd dynamic pressure of one horse at a time (singular stimulus demands). He drew away late to win by 2 ¼ lengths, earning his spot in the Kentucky Derby starting gate.

The downside to Promises Fulfilled's psychology was on display in his most recent race the Florida Derby (G1). Before he entered the gate he was washy, filtering physically a lot of emotional stress. His energy burn started long before the race started.

Promises Fulfilled, as is his style, erupted out of the gate, but his old buddy Strike Power jumped out of the 1 hole with similar intensity and purpose. The IHD battle started immediately. The fire was lit!

Promises Fulfilled's best combat mode, better saved for the end of the race, was fully engaged early through a first quarter in an untenable :21.95. He opened up a small lead on Strike Power, but his flame was dimming by the time the field hit the six-furlong mark. His energy warning light on, he faded back in a straight line, exhausted. He finished last, beaten some 35 lengths.

Considering the other challengers present in this Kentucky Derby and the emotional stress circulating before the race begins, this fast-spinning, physically filtering athlete runs the risk of performance anxiety tapping his energy reserves before he reaches the gate.

When the race starts, he may express this with a frantic escape until he burns off the excess fuel choking his carburetor.

We like Promises Fulfilled as an honest physical athlete, but we predict that this Herd Dynamic profile will find the Kentucky Derby scene a bit too taxing.

**About the authors:** Kerry M. Thomas is a pioneering researcher of equine athletic psychology. His work began with the study of wild horse social structures and communication, and how those areas affect herd motion. He is the founder of the Thomas Herding Technique (THT) and author of *Horse Profiling: The Secret to Motivating Equine Athletes*. Kerry co-founded THT Bloodstock with Pete Denk. For more information, visit [www.thtbloodstock.com](http://www.thtbloodstock.com) or follow Kerry on Twitter @thomasherding.

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## GLOSSARY

**Anticipatory Response:** A response that comes from anticipation, based on environmental circumstances. An anticipatory response precedes the actual stimulus. It is a learned response that becomes a habit. The anticipatory response mechanism can be used for learning and growth. However, an improperly functioning sequence can create aberrations and inefficiency.

**Behavioral Overcompensation:** Occurs when one sensory avenue either by physical limitation or psychological aberration overcompensates, resulting in body language eruption and/or loss of mental and physical efficiency.

**Buddying-Up:** Occurs when a mid-level herd horse seeks the comfort of movement with another horse. Buddy-up horses are dependent on another horse for safety, direction and rhythm of motion.

**Egg:** The horse's egg is the space around the horse, varying in actual foot-distance by the individual, that is its personal space and area of influence. Shaped much like an egg is shaped, it is the area where stimuli are efficiently interpreted. It is directly related to the herd dynamic of the horse; that area around the horse that it manages.

**Emotional conformation:** the mental and emotional psychology of a horse, that makes up who they are. It includes the way they communicate, interpret stimulus, and almost everything they do, including compete on the on the race-track.

**Emotional Conformation Profiling:** The study of a horse's Mental/Emotional Intelligence & Ability in three key areas; Trainability, Herd Dynamics, and Behavioral Genetic Traits.

**Group Herd Dynamic (GHD):** GHD is a horse's awareness of the environment, including the herd around them. GHD goes hand in hand with the ability to interpret stimuli. A horse with a good group dynamic can see/feel the big picture and where the horse itself fits into that picture. A healthy group dynamic usually is integral for a horse to consistently run well through traffic. Many horses with big group herd dynamics will prefer to be near the back of the field early in a race in order to read the other members of the groups' intentions. GHD horses literally feed off of the energy of herd motion and are comfortable letting it unfold over time and distance. GHD horses do not feel an urgency to take control of a herd immediately. Horses with high-functioning Group Herd Dynamics are usually multi-taskers, capable of taking in a number of stimuli at once without focusing too much on any one thing.

Horses with high-functioning GHDs usually have the ability to travel with a herd while rating/conserving energy. For this reason, horses with good GHDs tend to get the most out of their physical bodies in terms of distance aptitude.

**Herd dynamic:** a general term we use to describe a horse's overall herd level (its group and individual herd dynamics combined).

**Individual Herd Dynamic (IHD):** IHD is the dynamic that involves just the self and a singular target. IHD mode is one-on-one competing mode, hence it is very important in racing. A high individual herd dynamic is integral to being a great racehorse. IHD is the ability to turn on the intensity, fight for space, and vanquish an opponent.

As important as IHD is, too much IHD energy or unwise usage of it can lead to inefficiency. For example: a horse engages in a pace duel with one other horse, not thinking about the rest of the field, the length of the race, or anything else but that one-on-one struggle, and he uses too much energy too soon.

Horses that rely too much on individual herd dynamic also can get lost/overwhelmed if they have too much stimuli to interpret. Front-running horses that only run their best races when they are near the front of the herd, where there are limited stimuli, are usually very high on individual herd dynamic.

Horses with a lot of IHD energy sometimes don't "turn it off" that easily. So while they possess more fighting energy, they also tend to burn emotional energy at a higher rate. This sometimes leads to inefficiency in their distance aptitude.

In some ways, IHD dominant horses are like bullies. They are very dependable in their ability to dominate weaker competition and assume herd leadership at the front of the pack. This works well, especially for American racing where front-end speed wins a lot of races. But there is a downside to being an imbalanced IHD bully -- when you're only operating on one dynamic, it's easier to have the rug pulled out from under you. And when things don't go their way, some individual dynamic horses tend to fall apart.

In nature, male horses tend to be Individual Herd Dynamic dominant.

**Mental Efficiency Zone (MEZ):** Mental distance aptitude, expressed in race distance. The amount of time/distance a horse is able to efficiently operate from a mental standpoint.

**Pattern Of Motion:** A naturally occurring or learned response to the stimulus of a horse race. A pattern of motion develops every time a horse engages in a workout or a race.

**Purposeful Motion:** Efficient, willful movement, including reactions and non-reactions to stimuli, based on proper interpretations by the sensory system. High-level herd dynamic horses move with purpose in response to situational chaos, never losing control of their reactions to the environmental stimuli of herd motion and chaos. Thus, physical speed and movement is purposely controlled to fit the circumstance, as a naturally occurring act of self-preservation.

**Sensory Dependency:** The use of one sensory avenue over another to interpret stimulus even when such stimuli could be more efficiently processed by another sensory avenue. Example: eye dependent

**Space infraction:** When one horse infringes upon another horse's space.