

THOMAS HERDING TECHNIQUE: PATTERNS OF MOTION ANALYSIS



139 Kentucky Derby Starters



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BLACK ONYX

Sire: Rock Hard Ten

Dam: Kalahari Cat

Black Onyx is a difficult read because of surface interpretations. He absolutely loves running on turf, and to a lesser degree, Polytrack.

His victory in an allowance race on the Gulfstream Park turf on February 23 was beautiful. He moved with a nice controlled, methodical rhythm, and didn't waste much energy. He dealt with multiple stimuli, went around horses, changed gears into individual herd dynamic, released cleanly and looked great on the gallop-out.

His subsequent win in the Spiral Stakes (G3) was good but not great. When he encountered high-stress moments and needed to dig in, his motion got a little squirrely. His head stayed straight, but his hind end moved laterally. We noticed a lot of horses struggling and not changing leads in a timely manner on Turfway's Polytrack, so perhaps we should excuse some of the inefficiency. He won the race, but the pattern of motion definitely was not as smooth as we saw on turf.

Moving to dirt, he is a bigger question mark. Black Onyx has run ok on dirt but not nearly as well as he did on turf. He showed too much body language (head movement and high knee action) at times on dirt. His most recent two runs were his best, while the dirt races are further back in past performances, further complicating this read.

The Derby distance should not be a problem for this deliberate mover, but what a horse feels under its feet has a major impact on the psychology of performance. Very few horses can act equally on dirt, turf, and synthetic, and Black Onyx is very good on turf.

Given his patterns of motion, there is concern about how Black Onyx will handle the Churchill surface and how he will react to facing higher dynamic opponents. Black Onyx is an interesting horse, but there are enough chinks in the armor to question whether he can have a major impact here.



CHARMING KITTEN

Sire: Kitten's Joy

Dam: Iteration

Charming Kitten is a unique profile. He loves to match the rhythm of other horses.

We call this a “buddy-up” tendency. He was looking for a horse in the Kitten's Joy Stakes and again appeared to buddy up with the horse next to him when finishing a distant second in the Palm Beach Stakes.

In the Blue Grass Stakes, he picked a good horse to hook onto: stretch-running winner Java's War. Charming Kitten came running with his buddy and finished third.

Charming Kitten has never run on dirt and is a surface question mark. However, surface interpretations don't appear to be a primary factor in any of his performance. He is more dependent on the rhythm of the herd than any other factor.

One of the interesting things we have noticed about horses like this, who above all else want to match pace with other horses, surface often makes little difference to them. He will look to find his comfort zone by piggybacking off the rhythm and momentum of another horse. His rider should conserve energy, and look for someone live to follow in the stretch and see where it takes him.



FALLING SKY

Sire: Lion Heart

Dam: Sea Dragoness

Falling Sky is an individual dynamic horse. He is very comfortable being out front of the field, and he will give his all to hold that position as long as possible. It's clearly a sprint mind, but he has two-turn physical ability.

Falling Sky shows little or no reactions to group dynamic stimulus. He is often running in his own world. Verrazano handled him awfully easily in the Tampa Bay Derby. And Overanalyze blew him away in Arkansas. Falling Sky does not have a very powerful herd dynamic, and he is one dimensional from an emotional conformation standpoint. That means 10 furlongs against this field is going to be a big challenge for him. He is a candidate to get swallowed up by the field.



FEAR THE KITTEN

Sire: Kitten's Joy

Dam: Dynarhythm

Despite his late running style, also-eligible **Fear the Kitten** has developed an individual herd dynamic slant.

Normally, horses that run from off the pace are group dynamic horses. There is probably a group dynamic lurking inside of Fear the Kitten's head, but it has been greatly compromised by wearing blinkers throughout his career.

He actually started off his career looking fairly good, but as time has gone by, Fear the Kitten lost his sense of feel. That creates delayed responses to what happens to him in his races. He is almost always in reactionary mode and he exhibits a lot of wasted emotional energy.

He has lost trust in what he is feeling around him. In open space, he is comfortable launching, but he is increasingly leaning on herd motion for safety and comfort, instead of competing.

He shows over-exaggerated eye pull and delayed responses to group herd chaos. He can't feel it, so he is always trying to look at what is happening.

He is not a bad horse, but his development has stalled. There is no lack of effort. He's just operating with limitations.

He has run a few decent races, but he wastes so much energy. Other horses have to go by him in order for him to see and interpret them. That leaves him in chase mode more often than not.

The Derby is likely to be a mentally overwhelming task for Fear the Kitten if he draws in.



FRAC DADDY

Sire: Scat Daddy

Dam: Skipper's Mate

Frac Daddy is yet to look as good as he did the day he broke his maiden by 9 3/4 lengths at Churchill Downs back in November.

He showed a good relaxed feel, an efficient switch into the individual dynamic and a clean target and release ability and drew off to a big win.

In his next start, the Kentucky Jockey Club Stakes (G2), he again settled well into a good energy conserving, group dynamic motion but came out on the losing end of an individual dynamic stretch battle with the winner Uncaptured.

Frac Daddy showed little in his first two races as a three-year-old, then finished a distant second in the Arkansas Derby (G1). The winner Overanalyze took his space and went right by him. Frac Daddy deferred, then re-kicked after Overanalyze drew away.

Frac Daddy's group dynamic is solid for in a tactical mover, and his mentality gives him a chance to get 10 furlongs.

But we question his power in the individual dynamic. It's not that he isn't a competitor. He doesn't shy from battle. But we also don't see him influencing other horses since the maiden win. Against better horses he has been prone to be the reactionary horse in individual dynamic battles. That's almost never the winning end of the stick.



GIANT FINISH

Sire: Frost Giant

Dam: Apocalyptic

The last horse to join this Kentucky Derby field, **Giant Finish**, is unlikely to have an impact on the race, but he is far from the worst mind in the field.

Giant Finish is a mentally sound athlete. His reads and feel are efficient. His egg, though big in receiving stimulus, is not big in terms of affecting other horses. He doesn't command space with presence.

We love the determination he showed re-rallying after being passed in his last two races, both at Turfway Park.

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Giant Finish breaks from the gate very smoothly. He doesn't waste energy. He moves methodically and shows good transitions. In the Battaglia Memorial Stakes he showed a nice balance of group and individual dynamic. He also reacts well to pressure from behind – with forward motion.

Giant Finish doesn't have huge presence, but he has some nice gear shifts, and he did not give up when passed by two horses in the lane. He showed excellent grit re-rallying for second in the Battaglia. Considering he broke from the 12 post, he ran a heck of a race.

The only thing we didn't like is that his hind end gets a little sideways at times and we noticed he has a pretty funky running motion in front. Oddly, he shows no mental overcompensations for being such an awkward mover. He virtually runs sideways sometimes. But this is an adaptable mind, relaxed and never panicking.

The class level and probably the surface will pay against him here. Dirt is a lot less forgiving to this type of physical conformation than the synthetics. But as far as basic mental soundness, this is a nice horse. He has the balance of a high-level horse without its leadership presence. He's an underling on natural herd dynamics, but a very patient and efficient underling.

Giant Finish is probably outclassed here in the Kentucky Derby. He'll be facing faster, higher dynamic horses than ever before. But he never quits, and he can be a competitor at his own level if he stays physically sound. We'd be proud to have him in our stable.

GOLDEN SOUL

Sire: Perfect Soul

Dam: Hollywood Gold



Golden Soul has a solid group dynamic and a clean transition from the group to the individual dynamic when it is time to run.

He did not run poorly in any of his last three performances, all in graded stakes in Louisiana, but nor did he threaten for the win in any of them.

In the Risen Star Stakes (G2) he encountered some traffic trouble. The jock did a disservice to him when going to the whip while Golden Soul was trying to feel his way through a traffic situation in the stretch run. He didn't need extra stimulus at that critical juncture.

Golden Soul mostly passed a bunch of emotionally tired horses in the Louisiana Derby. He got to a certain level and then plateaued.

Golden Soul doesn't run with an overwhelming amount of presence. We see no signs of him moving horses or making them defer. He is an above average physical athlete with a balanced mind, but he does not have a commanding herd dynamic.

GOLDENCENTS

Sire: Into Mischief
Dam: Golden Works



Goldencents is an extremely competitive minded horse. He loves to run. He's so competitive that the biggest challenge for his rider in the Derby (Kevin Krigger) will be to get him to relax. Goldencents' pattern of motion is extremely consistent. He burns hot out of the gate until he feels he has control of the pace, then he settles and waits for a challenge. He relishes the battle and gives everything he's got. His reads are very fast, and he is a high-level interpreter of herd motion.

Goldencents waited on Mylute at the head of the stretch in the Delta Jackpot (G3), wanting to get into that one's grill. He was much the best, fresh on the gallop-out, searching with his ears.

Goldencents does not mentally tire even when physically winded. That was evident as early as his second career start when he shipped from Southern California to New York for the Champagne Stakes (G1). Goldencents was burning in the individual dynamic for the entire Champagne, never getting a break, but never quitting mentally despite being passed by Shanghai Bobby. He fought all the way to the wire to hold second place.

Goldencents' energy burn can cost him. He dueled through hot fractions in the San Felipe Stakes (G2) and tired to finish 4th. That was his lowest career finish, but it was sandwiched by a pair of nice wins in which he sat just off the leader and conserved some energy for the stretch run.

In the Sham Stakes (G3) he showed he could manage a horse in front of him. Goldencents was in control of pacesetter Manando. And in the Santa Anita Derby (G1) he sat just off the pacesetter Super Ninety Nine, and was fresh when Flashback tested him in the lane.

Goldencents is capable of sapping energy from one or more of the other pace players in this race. There is a lot of mental fortitude in this horse. He brings his 'A' game nearly every time he runs.

The lowest gear Goldencents has is sitting behind a horse, controlling its motion. In that respect, he is never truly turned 'off.' He only relaxes when he feels he is in complete control of the race.

The Derby distance of 10 furlongs is not going to be easy for Goldencents simply because he burns so hot and is partly at the mercy of pace dynamics. However, there is a real inner strength here, and if he can avoid fighting it out too soon, he has the emotional conformation to go 10 furlongs. The trip will be key. He must find a way to conserve energy.

Due to his physical speed and emotional energy, Goldencents is a very important piece of the puzzle in this year's Derby.

ITSMYLUCKYDAY

Sire: Lawyer Ron

Dam: Viva La Slew



Itsmyluckyday is one of the most balanced minds in this race. There is no overload in any direction. He has high-level interpretational skills, moves with a controlled, methodical energy, and handles herd chaos. All that and he has excellent tactical speed.

Itsmyluckyday sprinted the first four races of his career, winning two of them, but he always looked like a horse that would thrive going around two turns because of his controlled, efficient energy distribution.

He showed a rare balance between the group and individual dynamic when stretched out to two turns in the Foolish Pleasure Stakes at Calder last September 15.

Itsmyluckyday ran just ok at the Delta Downs bullring and then going a flat mile on the turf at Gulfstream. Then came a pair of breakthrough performances in the Gulfstream Park Derby and the Holy Bull Stakes (G3).

Itsmyluckyday set a track record in the Holy Bull Stakes in his matchup with juvenile champion Shanghai Bobby, a very high-level individual dynamic horse. The champ was giving everything he had in the Holy Bull, and Itsmyluckyday barely acknowledged his presence. He went by 'Bobby with a small head nod. The fact that Itsmyluckyday ran as fast as he did in that race while looking so methodical is extremely impressive.

Itsmyluckyday was soundly defeated on herd dynamics by Orb in their matchup in the Florida Derby (G1). Like most top emotional conformations, Itsmyluckyday shows very little outward body language. The little mental/physical bobble he experienced when Orb pushed him from behind, lassoed him in and took over his space in the Florida Derby was the equivalent of a body language eruption from this stealthy athlete.

No doubt, Itsmyluckyday will have that experience tucked away in his mind the next time he sees Orb. But how will he react? He could defer. Based on his body of work, there also is a chance he could learn from that experience. Itsmyluckyday is not a horse that is easily demoralized, and his under-the-surface grit bodes well for a rebound.

Itsmyluckyday is an elite reader of intent and is very efficient at managing herd chaos. He is a patient runner that never panics or wastes energy. That makes him well suited to the Derby atmosphere and distance.

Given the herd dynamic defeat by Orb and the individual dynamic challenges he figures to face up front, Itsmyluckyday may be between a rock and a hard place in this Derby. However, we would not completely discount Itsmyluckyday's chances, as his overall profile is extremely solid.

JAVA'S WAR

Sire: War Pass

Dam: Java



We loved what **Java's War** did on the turf during his two-year-old season. Although he was facing less than top class competition in his victories at Ellis Park and Louisiana Downs, he showed all the tools we look for in an elite horse: a strong group dynamic, a smooth target and release ability, the ability to multi-task and handle herd chaos, the ability to push horses with presence in all directions, and a sharp individual dynamic.

Those abilities need to be proven against higher competition, and later in his two-year-old season when he faced graded stakes competition on Polytrack and dirt, Java's War seemed to regress. In his only previous dirt race at Churchill Downs, he didn't look very comfortable. He never switched to individual dynamic mode. He was either physically or mentally compromised in that performance.

Java's War came out revitalized at age three, running second on the dirt in the Tampa Bay Derby (G2). He verified his strong group dynamic in this performance, doing a great job of moving through traffic. After he passed all the horses in the field but one, he might have thought he was over the mountain. Then he ran into the steepest part (Verrazano). Java's War didn't have nearly the individual dynamic that Verrazano had in that race.

Running on Polytrack in the Blue Grass Stakes (G1), Java's War again showed he has a really beautiful group dynamic and a clean target and release ability.

This is not a physical conformation report, but we couldn't help but not notice his running action on the head-on replays (watch his left front leg on a head-on replay). He has a lot of action there and appears to hit the ground awkwardly. How efficiently a horse gets over a surface can have a profound psychological effect on performance.

Mentally, Java's War is as well-equipped as any member of this field to handle the Derby chaos. He should be able to conserve his energy, weave through traffic and make a run. But we question whether he is at his best on this surface, and we would be surprised if he has enough power in the individual dynamic zone to grit it out head-to-head vs. the top horses in this field (unless his opponent is emotionally exhausted).

LINES OF BATTLE

Sire: War Front

Dam: Black Speck



Aptly named **Lines of Battle**, winner of the UAE Derby (UAE-G2), is an individual dynamic fighter. He likes to look other horses in the eye and compete. We admire that, but it is not the easiest way to win a race like the Kentucky Derby. Any unnecessary energy burn is going to hurt going 1 1/4 miles.

Lines of Battle responds well to visual, close contact. He clearly waited on a horse when hitting the lead in the UAE Derby, then kicked into gear again. He galloped out confidently in the UAE Derby.

Lines of Battle is a very intelligent horse, but he wants to physically engage his opponents. In his favor, at least Lines of Battle has an 'off' switch. The ride will be very important. He'll probably need to be covered up but forwardly placed, otherwise he will be in danger of getting lost, as he did through a wide trip in the Breeders' Cup Juvenile Turf (G1).

He has never run on dirt, so surface questions loom, but we think this is mentality that is fairly surface neutral. We won't be surprised if Lines of Battle wins a battle or two, but an unbalanced dynamic is unlikely to win this war.

MYLUTE

Sire: Midnight Lute

Dam: Stage Stop



Mylute started on a new path as racehorse when he finished second in the Louisiana Derby (G2). This was the most mentally balanced performance of his career, and it probably had a lot to do with the blinkers coming off.

He showed blatant behavioral overcompensations in his blinker races. Mylute spent an enormous amount of mental/emotional energy trying to process what was going on around him. This negatively affected his forward motion and put a lot of stress on him.

Mylute was particularly compromised when horses entered his space from behind. He felt their energy and looked to hand off the stimulus from his sense of feel to his sense of sight, but he couldn't see behind him with blinkers on. He then often would run in place as a defensive-minded horse.

With the blinkers off, Mylute relaxed and was able to move into space much more efficiently, without worrying about what was behind him. This was a more balanced performance.

His group dynamic was much more efficient, but his individual dynamic was slightly less powerful and not as channeled without the blinkers. With the blinkers on, Mylute had a launch. This was a more gradual move.

Mylute was in position to win this race, but he got re-rallied on by Revolutionary. Revolutionary's presence was much stronger here, and he slammed the door on Mylute. Mylute's individual dynamic doesn't seem to be as powerful as the top horses in this race, but Mylute did have to make a wide, sweeping move to get to the front in the Louisiana Derby, so he had some right to be tired.

Mylute is a horse on the improve, but he is adding distance and stepping up in class. The next chapter in his re-education will be the Kentucky Derby, not an easy place to learn on the fly.

NORMANDY INVASION

Sire: Tapit

Dam: Boston Lady



Normandy Invasion is an interesting proposition coming off his rallying second behind Verrazano in the Wood Memorial Stakes (G1). The pan view and gallop-out of the Wood suggest Normandy Invasion could benefit from the added Derby distance of 10 furlongs in his rematch with Verrazano. A closer examination of his emotional conformation indicates things are a little more complicated.

The good news for Normandy Invasion is that he does almost everything right. He does not try to match rhythm with other horses. He creates his own. That is a good sign. Lower level horses will match the rhythm of other horses. High-level horses don't need to seek comfort in that manner.

Normandy Invasion has an excellent group dynamic, he can multi-task mentally, he handles herd chaos, and added time in motion is a benefit to him (generally speaking).

The one potential hole we see in Normandy Invasion's emotional conformation is that when he is asked to kick into individual dynamic mode, he often shows lateral head movement when engaging horses. Normandy Invasion can cruise along in group dynamic mode and conserve energy beautifully, but when he is asked to go into competing mode, there is a slight sign of stress. This results in him burning a little hot, and makes him vulnerable to running out of gas in a prolonged drive.

In fact, that was exactly what happened in two of his losses. In his debut race going six furlongs (short for him anyway), Normandy Invasion was sent early and wide, and he tired mentally and physically.

His defeat against Overanalyze in the Remsen Stakes (G2) also exposed Normandy Invasion's one weakness. Asked to move with more than three furlongs left in the race, Normandy Invasion was vulnerable late against the methodical, gritty individual dynamic of Overanalyze. The result was an unlikely re-rally when it looked like Normandy had the race won.

We excuse Normandy Invasion's 5th-place finish in the Risen Star Stakes (G2). It was his three-year-old debut and he actually ran quite well from a herd dynamic standpoint. Early traffic played a major role in where he placed physically, but he finished very strongly. He was a little pissed off at the end of the race.

In the Wood, Normandy Invasion handled some traffic early in the race. He interprets herd chaos very well and is versatile in terms of being able to go between, inside or outside horses. He also was able to stay within striking range of the leaders in the Wood. If he can do that in the Derby, it will be very beneficial.

When Normandy Invasion entered the space of Verrazano, Normandy Invasion showed brief lateral movement. When two horses hook up, the one that maintains forward motion most efficiently is usually the winner. Normandy Invasion recovered quickly enough and galloped out well in front, but if we had to declare a winner on herd dynamics, the split decision goes to Verrazano.

Added time in motion should help Normandy Invasion as long as he does not have to kick into individual dynamic too soon. A patient, tactically sound ride will be critical in the Derby. He needs to stay in the group dynamic/time-in-motion phase of the race as long as possible, because he moves methodically and efficiently in that mode.

Normandy Invasion does a lot of things well. He has the distance mind and skillset to win this race. We see a slight weakness in his individual dynamic, but added time-in-motion could offset that factor.

ORB

Sire: Malibu Moon

Dam: Lady Liberty



As much as humans can feel a horse's presence, the best way to judge a horse's true power is to let the horses tell you. In other words, look for reactions in nearby horses.

In **Orb's** maiden win last November, he defeated fellow Derby starter Revolutionary, a high-level horse in his own right. On the far turn, Revolutionary was on the rail, while Orb was out 4 or 5-wide. There was a clear recognition by Revolutionary that there was a beast-like presence on the outside that he wanted no part of (at least not at that point in his career).

Orb wasn't showing any demonstrations of body language to influence Revolutionary or the other competitors. He was projecting his presence. That is how the highest level horses choose to communicate – with intent -- not with physical bullying or any (misconstrued) classic "alpha" behavior. The fact Revolutionary could feel Orb from that distance away was significant.

Orb won the race easily, and not only has he not been beaten since, he continued to grow with each race.

Orb breaks from the gate in group dynamic mode, in complete control. He uses his sense of feel very well. He knows what is going on around him, and he can mentally multi-task without burning much energy. This is an important skill to have. A horse with more singular focus ability – for example, an eye-dependent horse that must look at a stimulus to understand it -- can quickly go on sensory overload and burn out emotionally in the Kentucky Derby.

Orb is a very methodical horse and can carry his energy a long way. He has a classic distance mind. In his NW1 allowance victory on January 26, Orb was in a tight spot early, and his jockey pulled him back. Orb handled it with absolutely no panic or unnecessary energy burn. It requires a mental shift to be pulled back and then re-engage, and Orb did it so smoothly.

Orb doesn't waste any of his individual dynamic energy (the energy horses use in one-on-one battles). He turns it on when he has to pass a horse or assert dominance, but often he barely engages his power. This is not unusual. In nature, high-level horses don't waste energy. They don't do anything unless they have to. Orb's allowance NW1 win was not nearly as close as the one-length physical margin indicated. From a herd dynamic standpoint, that was a 10-length win.

Again, looking at how the other horses react to Orb tells us so much. The lead horse Mountain Eagle was practically running sideways and lost all his momentum because of Orb's powerful presence from behind. He couldn't re-settle until Orb went by and released him. Late in the race Orb took over frontrunner Duke of the City's space and quickly let go. Duke of the City immediately fell into adjunct mode and looked to run on Orb's flank. He never would have passed him.

In the Fountain of Youth Stakes (G2), Orb showed the ability to advance through a field, making multiple moves (we call that stair-climbing). That skill will come in handy in the Derby.

Orb showed a huge level of grit in the Florida Derby (G1). He was challenged and he responded by exerting himself with more authority than ever before. He was pushing Itsmyluckyday from behind like a snowplow. And Itsmyluckyday is no slouch. Then Orb slammed the door hard and kept going.

Orb always runs his own race. He doesn't react to the other horses in his environment. They react to him. In all of his recent races, Orb was still operating very efficiently at the wire. That suggests from a mental/emotional standpoint, he can go further.

Orb is extremely versatile. He shows no sticking points or mental weaknesses. He operates strongly in traffic or in open space. He never shows a tendency to mimic the rhythm of any other horse (weaker horses sometimes do this for comfort). Orb is above them.

Orb was challenged in different ways in each race, and he imposed his will on the other horses every time. Orb has grown every race at age three, which is pretty scary. He's continuing to expand on his confidence and control. Orb is in the top 1% of all horses from the standpoint of emotional conformation and herd dynamics. He is our top rated horse in this year's Kentucky Derby.

OVERANALYZE

Sire: Dixie Union

Dam: Unacloud



Beginning with a debut win sprinting at Saratoga, **Overanalyze** has rotated wins and losses every start of his seven-race career. He is coming off a win in the Arkansas Derby (G1), the best performance of his career from a herd dynamic perspective.

Overanalyze has a decent group dynamic – he can handle some herd chaos and he isn't automatically lost in the shuffle if he finds himself off the pace -- but he is primarily an individual dynamic horse. This is the main reason for his inconsistent race record.

After the wire-to-wire debut win, Overanalyze stepped up to the Hopeful Stakes (G2) and tried to replicate his debut victory. Pressing the pace between two other high-level individual dynamic horses – Majestic Hussar and Shanghai Bobby – Overanalyze burned out and finished fourth. That was a wakeup call for horse and connections.

In his next start in the Futurity Stakes (G2), Overanalyze was bumped at the start and trailed the field early. This was a discovery race for him. Although still showing signs of being a target oriented, individual dynamic horse, he relaxed and settled, showing signs of a developing group dynamic here. He rallied widest of all to win going away.

Overanalyze took a step backwards when shipped to Churchill for the Iroquois Stakes (G2). He got shuffled back in the turn, found himself surrounded by herd chaos and lost sight of the big picture. In that scenario, individual dynamic horses will sometimes choose to compete with a random horse nearby instead of going after the leaders.

In the Remsen Stakes (G2), Overanalyze found conditions much more to his liking. Tracking a singular target (Delhomme) is a great trip for him. His individual dynamic is very efficient, and he has a good forward focus. Although IHD horses are often distance compromised, when Overanalyze is able to relax early, he is very fluid, and his finishing move is very methodical and gritty. Normandy Invasion (whose strength lies in the group dynamic) looked like a winner, but he cracked in the individual dynamic battle vs. Overanalyze. That was Overanalyze's 'A' game vs. Normandy's 'B' game.

Overanalyze did not run well in his three-year-old debut in the Gotham Stakes (G2). Perhaps physical fitness and a wide trip hurt him, but this looked a lot like the Iroquois performance, when he was surrounded by herd chaos and never really threatened. When Overanalyze latches onto an individual dynamic battle, he wants to do it face to face. That is a problem if you aren't close to the leaders.

The Arkansas Derby (G1) was a really good growth race for Overanalyze. He's still target oriented, but he handled some herd chaos very well in this race, showing maturity and group dynamic growth. He clearly knows how to handle himself in open space. He finished this 9-furlong race with good emotional energy -- a lot of grit and fortitude.

Overanalyze is gradually getting away from his eye dependency and individual dynamic slant. Does he have another forward move in him? It is possible. He should be able to handle 10f, but a 20-horse field will be a big challenge for his underlying mindset. There is a fair chance he won't run his race in the Derby.

On the positive side, Overanalyze doesn't crack easily in prolonged battles, especially if he is able to relax early. If he gets the right trip, he can contend here, but his psychology is not as well rounded as some of the others in this field.

OXBOW

Sire: Awesome Again

Dam: Tizamazing



Oxbow is a very individual dynamic, eye-dependent horse. He is most comfortable in open space, and he loses efficiency in a crowd.

His interpretation skills are a bit lacking. He doesn't multi-task very well. He is very singular in his focus. His body goes sideways when he is under pressure in traffic. He tends to slow down when he is unsure of himself.

Oxbow is much better in space, outside of horses. He needs extensive coaching from his jockey, as he does not have a good feel for herd motion. His behavioral overcompensations are likely to pop up in the Derby.

His 5th-place finish in the Arkansas Derby was actually one of his better performances from a mental standpoint because he handled traffic and was finishing ok. That was a good prep for the Derby, but he has a long way to go to compete for the win in this field.

PALACE MALICE

Sire: Curlin

Dam: Palace Rumor



Palace Malice is going to wear blinkers for the first time in the Kentucky Derby, and after analyzing his patterns of motion, we understand why trainer Todd Pletcher is going that route.

Palace Malice shows an eye dependency in his races. He wants to be looking at whatever stimulus he is concerned with, and he likes to match rhythm with the horse next to him. Neither of those habits are the attribute of an elite mind, and both can slow his forward motion.

The blinkers are likely to soften Palace Malice's eye pull and could stop him from trying to match rhythm. However, the compromised vision field will push him toward using his sense of feel more. The result of that sensory shift is unpredictable. More often than not, a vision dependent horse is that way because he does not have a strong sense of feel. Forcing him to use his sense of feel more in a chaotic race like the Kentucky Derby could make things even worse.

Since being stretched out to two turns, Palace Malice has shown a good group dynamic. He can handle some herd chaos, although we have not seen him move other horses with presence.

In both the Risen Star Stakes (G2) and the Louisiana Derby (G2), Palace Malice moved laterally quite a bit in late stretch. He did so in the Risen Star because he was trapped behind horses for much of the stretch run, but he was still showing more body language than we would like in that scenario.

Palace Malice was in a position to win the Blue Grass Stakes, but he was turning his head, looking back at Java's War and moving laterally as he was overtaken near the wire.

Pletcher has said Palace Malice's blinkers will not be very restrictive, and that is good. But even if they work, we don't rank Palace Malice up there with the elite minds assembled for this race.

REVOLUTIONARY

Sire: War Pass

Dam: Runup the Colors



Revolutionary is one of the grittier, more competitive horses in this year's Derby. He was no match for Orb when they met last fall, but both horses have grown considerably since that race.

In the Withers Stakes (G3), Revolutionary overcame considerable roadblocks to get the win, but he lost some style points in our eyes. When forced to sit behind horses in the Withers, Revolutionary was burning a lot of energy and showing more body language and lateral motion than we would like to see from an elite horse.

His hind end went sideways as he splits horses late to win this race. His momentum shot him through the hole, and it was a good learning experience, but he was pretty squirrely going through there. And he didn't interpret the horses he split as a group. He viewed them individually. This is probably because he operates more on vision than feel. This is a dynamic that ranks below the elite level.

Give him credit for maintaining forward focus and motion despite dealing with a lot of traffic situations. He controlled himself just enough to get the job done, and it was an extremely entertaining race to watch.

Revolutionary's win in the Louisiana Derby was another fine performance, but again he shows some eye dependency. That is not atypical for an individually slanted male horse, but it also isn't the optimal efficiency, especially for a race like the Kentucky Derby, where there will be a dizzying amount of visual stimuli over a protracted distance.

Revolutionary did a great job outgaming Mylute for the win in Louisiana. He had to dig deep there to re-kick, and he clearly has an excellent individual herd dynamic. But he puts so much emotion into everything he does, we question if he will be efficient enough to get the job done in the Derby.

Revolutionary is not entirely one-dimensional, and he is a horse to be reckoned with, but he grades out a notch or two below the very highest level in terms of emotional conformation.

It is interesting that Derby ace Calvin Borel gets the mount here, as Revolutionary is very responsive to his rider. If Borel can get Revolutionary home in front, we think it will rank up there with his amazing Derby-winning rides on Super Saver and Mine That Bird.

VERRAZANO

Sire: More Than Ready

Dam: Enchanted Rock



If there is a horse in this field that could possibly defeat Orb on the square, undefeated Verrazano is probably the one.

Verrazano is a top horse on herd dynamics. He comes out of the gate like a shotgun, gets position, and runs with a beautiful rhythm. He carries his full load of energy from start to finish. He has handled distance increases extremely well, and has been nothing but elite and efficient in all stages of his races.

Not only is Verrazano physically fast, but this might be the finest mind trainer Todd Pletcher has had in recent Triple Crowns.

Verrazano runs very methodically. Similar to Orb, Verrazano invokes a lot of lateral motion in the horses around him. He leaves a big wake, and he does it with presence.

Verrazano comes out of the gate in the individual dynamic zone and takes a little longer to settle than some horses. This burns a bit of emotional energy, but Verrazano has a lot of energy in his tank. And on the plus side, this early energy burn has allowed him to grab good tactical position.

Verrazano was about as relaxed a horse can be in his first two races. Mentally he looked like he was floating on a carpet. He was in such a comfort zone. There is quite a bit of presence here. In his first two races, the other horses were throwing in the towel from a herd dynamic standpoint, naturally deferring to him. They weren't even thinking about challenging him for space. At the same time, jockey John Velazquez was letting Verrazano discover himself.

His first two-turn race, the Tampa Bay Derby, was a beautiful performance. Falling Sky tried to take charge of the race, but Verrazano made Falling Sky burn a lot of energy, while Verrazano showed a very relaxed head carriage. He took over easily.

Although Verrazano shows a slant to the individual dynamic, he recognized Java's War was trying to run at him from 3-4 lengths back during late stretch at Tampa. That shows us that Verrazano has a pretty strong read of what is going on around him in the group dynamic. He reacts favorably to pressure from behind. He didn't tire mentally here at all.

In the Wood Memorial Verrazano looked great tracking a target in front of him, while he settled into cruising gear. When Verrazano took the lead, Vyjack tried to overtake him. From an emotional conformation standpoint, Vyjack had no chance of passing this horse. The only true challenge came from Normandy Invasion popping up from behind late. Verrazano responded to Normandy Invasion and landed the first emotional punch. On the head-on, we saw that Vyjack and Normandy Invasion both moved laterally in response to Verrazano's presence just before the wire.

If that race had been longer, there might have been a re-engagement from Normandy Invasion and a reaction from Verrazano. Normandy Invasion "got told" when he tried to enter Verrazano's space. Normandy Invasion was moving with respect, but not fear, at the wire. It should be noted that Verrazano was still emotionally strong at the end of the Wood. He again showed his reads of single target stimulus – in any direction around him -- are very good, and he is able to project his presence in any direction.

Verrazano should learn from the Wood. When he thinks everything is settled, he can get sucker-punched with a new stimulus (Normandy Invasion). Verrazano knew where Vyjack was and he had him beat, but when he is in that individual target mode, his multi-tasking skills are softened. And someone usually comes running late in the Derby.

One question we have about Verrazano is how he would react to a wall or series of horses in front of him. His pattern of motion has played out almost exactly the same in every race. If he gets that same trip again where he dominates up front and still has emotional energy to spare in the stretch, he will be very hard to deal with in the Derby. If he encounters traffic early and has to fight to get to his default position, what will that leave in his tank? Verrazano's distance profile is strong, but his vulnerability increases at 10 furlongs.

VYJACK

Sire: Into Mischief
Dam: Life Happened



Until his rally from 10th-place to win the Gotham Stakes (G3), **Vyjack** looked like a good but one-dimensional horse. In his first three starts, including a victory over Orb going 6 1/2 furlongs, Vyjack looked like a powerful, individual dynamic horse that loved close space battles. He is fast and he likes to fight. But, conserving energy was not high on his list. He would break from the gate in the individual dynamic zone and start burning energy.

In his fourth career start, the Gotham Stakes (G3), Vyjack changed tactics. He showed a much more relaxed energy, breaking in 10th place and coming late for the win. This was a great ride by Joel Rosario and a great prep race for Vyjack. He was asked him to do something he might need to do in the Derby – perform when taken out of his speed element -- and Vyjack responded very well to it.

Vyjack was able to target, pass and release multiple horses. This was a great growth race. It wasn't done super powerfully, but it was done efficiently. He still showed some affinity for close space battles, but it didn't hurt him here, because none of his opponents particularly wanted to fight him for space.

Vyjack took another step forward in the Wood, but he found himself third best behind high-dynamic opponents Verrazano and Normandy Invasion. Vyjack didn't go down without a fight. He tried to take on Verrazano, but ultimately deferred. Then Normandy Invasion charged into his space, and Vyjack was like a boat between two big waves. If you watch the head-on replay of the race, that's the moment of release between Vyjack and Verrazano. Vyjack is beaten, and he sucks into the vacuum behind Normandy Invasion. There was a lot of communication between these top three horses late in the Wood Memorial.

Vyjack is a very good horse -- a capable athlete with a good competing spirit. He has been developed very well, but he wasn't quite at the level of the top colts in this class in his last race. We give him a chance to move forward off that experience, but his penchant for close space battles makes him an unlikely winner facing those horses again at a longer distance.



WILL TAKE CHARGE

Sire: Unbridled's Song

Dam: Take Charge Lady

Will Take Charge is yet another horse in this race that is likely to be compromised by wearing blinkers. For the record, here is the THT stance on blinkers: They are vastly overused in Thoroughbred racing. The decision to put blinkers on a horse is tantamount to the trainer saying, "My horse has a mental issue that is preventing it from performing at its best. Instead of identifying and trying to fix that psychological problem at its root, I am going to put headgear on the horse to restrict its vision."

Blinkers are a Band-Aid. They sometimes make a horse run faster, particularly in their first race wearing them. But they rarely address the underlying issue.

Some horses learn to race with blinkers, as if they are not there. But most horses would be better off without blinkers. Will Take Charge appears to be just such a horse.

Will Take Charge runs with a very internalized energy. He is trapped inside his own head. He doesn't show a lot of interpretation skills. He is often struggling to figure out what is going on around him and particularly behind him. That stops him from efficiently releasing his energy forward. He hasn't had a chance to go into battle with all of his senses available to him. He runs with suspicion because of the blinkers.

The frustrating thing is that it looks like there is more horse behind that helmet. Will Take Charge has got plenty of grit and try, but his decision-making process is delayed for various reasons, including the blinkers. He's not running free 90% of the time.

His responses to group stimulus are not even close to what they should be. His body tends to get a little snaky (back end goes sideways) when he is trying to figure out what is behind him.

Will Take Charge moves powerfully into space when he quits worrying about what is around him, but that doesn't happen too often. He did a good job releasing and moving forward late in the Rebel Stakes when reacting to the whip from his rider. That was a nice burst to run down stable mate Oxbow, and a hint of what this horse might be able to do.

There are a lot of things going against Will Take Charge in the Derby. This is a very difficult race for a horse with sensory interpretation issues. There is ability here, but given his previous patterns of motion, he'll need a really lucky trip to not be compromised in a 20-horse field.

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GLOSSARY

Behavioral overcompensation: the reaction that occurs when one sensory avenue, either by physical limitation or psychological aberration, is overcompensated for its inefficiency by the use of another sensory avenue. Body language eruptions and losses of forward motion efficiency during a race are usually tied to behavioral overcompensations.

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 an invisible space around the horse varying in actual foot-distance from them that is the comfort zone of space around the horse. Shaped much like an egg is shaped, with the more pointed part being forward (owing to the horse's binocular vision) the egg of comfort is the area where stimuli are efficiently interpreted in any direction. It is directly related to the herd dynamic of the horse; that area around them that is managed by them.

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 racetrack.

Group herd dynamic (GHD): a horse's awareness of the group around them. It goes hand in hand with the ability to interpret multiple 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 is integral for a horse to run well through traffic or from far back in a race. 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 group's intentions. They are in fact sizing up the field and determining where they want to go. The U.S. champion mare Zenyatta is the classic example of a horse with a big group dynamic (she also had a big individual dynamic, which she could turn on when needing to fight for space and pass horses).

Herd dynamic: a general term describing a horse's overall herd level (its group and individual herd dynamic ratings combined).

Individual herd dynamic (IHD): the dynamic that involves just the self and a singular target. 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. Horses that rely too much on individual herd dynamic will get lost 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. A high individual herd dynamic is integral to being a good racehorse, but the best horses usually are strong in both dynamics. 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, individual dynamic horses tend to fall apart.

Space infraction: When one horse infringes upon another horse's comfort zone. Picture an invisible egg surrounding each horse. The size of that egg is dependent on the individual horse. Some horses shy from space infractions, some feed off of close contact.

