

INQUIRY AS DETECTIVE WORK : THE CASE OF THE CAROUSEL

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Children crowded the space that opened when the gate was pushed back. They hopped, jumped, or were lifted onto the silvery, circular platform where the painted ponies waited to be chosen. Some riders made their selections instantly, without seeming to ponder the choices. Others took more time in looking over the array of silent, motionless, colorful steeds. A few would mount one, then another, before settling the decision just in time--seconds before the platform lurched forward to the strains of a rousing pipe organ march, propelling its painted ponies with their riders into orbit around the mirrored center post of the carousel.

I had been watching the choice-making for some time. Several groups of children had taken their rides. Some of the ponies were clearly favorites. You could say that they were the overworked ones. Most got their fair share of riders. But that wasn't true for all.

I was watching sixteen rows of ponies, four abreast, on a carousel in Brackenridge Park in San Antonio, Texas. Many were white with thick, rippling manes or arched or outstretched necks. Their heads, overlarge for their bodies, seemed unusually thick and square. They were adorned with simple but colorful saddle blankets, decorated with delicate scrollwork. These were the most regularly ridden ponies, especially by the smaller children who could straddle them with ease. But bigger children chose them too, sometimes after sampling one of the ornate and larger horses on the outside row. I watched as riders considered those larger ones, wondering if they were seeing what I saw.

Shiny black with golden yellow roses in full bloom on his halter, the painted pony sprang up and down on a brass pole as he traveled round-and-round on the carousel. His roached mane outlined the curve of an arched head. Rippled muscles in his neck reflected the bright sunlight as he passed me on this hot summer day. His legs were poised in a stationary gallop. And as the carousel slowed to bring the pony to a halt directly in front of me, I caught sight of the cherub's face beneath the cantle. Its pink-cheeked, chubby baby face was framed with angelic wings. The coat of arms on the pink saddle blanket and the jewel studded pink halter made me wonder if this pony was groomed to carry someone of royal blood, noble deed, or special title.

The shiny black pony stood out in the herd of sixty-four animals. He was the only black one in the field of white and palomino colored mounts with legs positioned in ways that brought to mind images of racers, trotters, and jumpers. As I studied the pack more closely, I noticed that the black leader on the outside row was noticeably different from the others. Why? I wondered. Why were those eight on the outside row not only different in posture and ornamentation from the rest of the field, but also different from one another?

The shiny black pony with the yellow roses was followed immediately by a pony that was more like the others on the carousel. White, with a thick rippling mane and large saddle, the pony's only decoration was the painted scrollwork I had notice earlier on so many of the smaller horses -- the ones with heads that seemed too large for their bodies and with squared muzzles. I could find two styles of these unadorned ponies: ones with tucked heads and others with outstretched necks.

In contrast to the simplicity of the plain ponies, the palomino horse just behind them on the outside row was dramatic with flared nostrils, flowing mane, and a large green faceted stone in its tack. Huge eyes stared out of a head that strained forward, the mouth open wide as if gasping for air. The third of the unique eight surely was a hunter's mount. A gun suspended from the saddle with a rabbit dangling head-down on the pony's rump and a miniature sad-faced lion tucked under the cantle were my clues.

Soft, soulful eyes made the white trotter with brown, windswept mane especially appealing to

me. With ears perked forward, the animal seemed to be listening intently. Veins in high relief on an arched head, snorting nostrils and a jaw held taut by a buckled bridle strap gave the animal an especially astute look. Its blue, pink and burgundy blanket, over a halter fringed and tasseled in gold, made me imagine the pony prancing on a parade ground somewhere in times past.

I turned to catch an eyeful of glistening crystals reflecting the sun. A fierce black eye peered at me from a hole in the animal's helmet. Its arched head, perked ears, and prancing posture were, of themselves, not unusual. But the steely gray armor that covered its massive neck and sides was. A gold mask embedded with amber stones left only ears, nose, and mouth exposed. This gray tailed white steed must be a knight's mount.

A white Arabian with a cropped orange mane was the next of the larger outside row ponies. His stylized large eyes were dark and playful. The halter seemed formed by a string of small golden coins, delicate in contrast to a massive brown belt that buckled around the pony's thick neck. The saddle blanket was a curious mixture of scale-like shapes and golden fringe. Yet I hardly noticed it for the saddle with its deep brown pelt with claws still attached, dangling under the place for the rider's legs. This beautiful animal, with its proud bearing, seemed perfectly formed until I noticed a missing tooth. My first thought was that the tooth had broken off. But the glazed finish of that empty space suggested that it had been deliberately left out. Why would a carver of decorative horses do that?

The one with the flowing auburn mane had many riders. The thick, rippling beauty of that mane over a massive arched neck gave the pony an almost violent appearance. A triangular deep-set eye intensified the mount's wildness, softened somewhat by a garland of large leaves and flat, gardenia-like flowers on its draped saddle blanket and halter. One large red rose was blooming under the cantle. The animal was jumping. No question about that. The auburn tail, matching the pony's mane in its rich color and skeined texture seemed to serve as ballast.

One pony went unriden. I fancied this one a filly. She was beige in color, with milk chocolate mane. With feathers dangling from her harness, she was the only one with neck and head straining skyward. I thought she might be an Indian pony, not only because of the feathers, but also because an otter, with bared teeth, peeked out from under the cantle. She strained against her reins--a spirited filly none that wanted to ride. I wondered about all those ponies, but especially this unwanted one: What was her pedigree? Where had she come from and who created her?

My first thought was to consult a book on the carousel. Titles on the library shelves were not exactly in abundance but I did find one book that put me on the trail of clues. It was Tobin Fraley's *The Carousel Animal*. What I read in the first chapter informed my questions, giving them broader context. I discovered that the carousel has its origins in the Italian carosello, meaning little war, which refers to an Arabian game that was brought to Italy by the Spanish crusaders. This war game was played by men on horseback throwing clay balls, filled with scented oil. The object was to catch the ball before it broke and spilled its smelly contents over the clumsy player.

Later, in the seventeenth century, Fraley recounts, Louis XIV of France took a game that had been played in the courts of Charles VIII and developed it into a major pageant, *Le Grand Carousel*. One of the games played during the pageant came from the Moors. While galloping at full speed, the rider tried to spear a ring with his sword. Because this required considerable skill, the players would practice on wooden horses that were tied to a central pole and rotated by horse or man power. The ring was hung outside the circumference defined by the wooden horses, suspended from their rotating center pole. That's where catching the brass ring came from.

I remembered the brass ring from my childhood days in Coney Island and Rye Playland in New York. On those wonderful Sunday family outings, I had ridden the carousels whenever I could. I wasn't good at catching the brass ring, which carried the prize of a free ride, but I remember trying. And most of all, I remember the rides and the painted ponies. As I recall, those horses were wooden, bigger, and

more massive than the ones on the carousel in San Antonio's Brackenridge Park. What were the Brackenridge Park ponies made of? I hadn't thought to ask that before. Fraley's book told me that the merry-go-rounds I had ridden as a child were created at the turn of the twentieth century by master craftsmen who brought to the United States their knowledge of carousel horses from England, Germany, and France. It had been the Industrial Revolution and the invention of steam powered engines that made the carousels or "roundabouts" popular amusement rides for a growing population of people who spent their Sundays at parks and fairs. Fraley introduced me to names of master craftsmen of wooden animals like Gustav Dentzel, Charles Loeff, James Armitage and Allan Herschell, M.C. Illions, Charles Carmel, Solomon Stein and Harry Goldstein, and Charles W. Parker, and carousel manufacturing groups like the Philadelphia Toboggan Company and the Herschell- Spillman Company. While each carver has his own style, all borrowed from one another. Fraley identifies three styles that are associated with the carousels that developed in the cities of America's northeast in trolley parks that grew up where the tracks ended. This information sent my inquiry off in a new direction.

Might the ponies on the Brackenridge carousel be formed in the realistic style of Gustav Dentzel, one of the first to manufacture carousel horses in America? Were any of them the progeny of Charles Loeff's fancy horses with lots of decoration? Were they spawned by Charles Dare and his imitators, James Armitage and Allan Herschell: relatively small and unadorned for ease of transport with traveling amusement companies and for assemblage on county fair grounds in rural areas throughout the country? The pictures in Fraley's book gave me visuals for comparison with the horses on my local carousel, but because his photographs are of the original carved wooden horses, I couldn't make visual matches with the fiberglass ponies. The local horses were similar in some ways to the pictured ones, but several differences argued against positive identifications.

I went back to the Brackenridge carousel to study the animals and to take pictures for further scrutiny at home. During one of my visits, I asked the person in the ticket office for information about the carousel. She didn't seem to know much about it. I was disappointed. But then, on another visit, a young man who was running the ride noticed my obvious interest in the horses themselves. He asked me about my interest and we talked. "How are they made?" I asked him. "I can't tell you how but I can tell you who," he said and I uncovered another important clue. He showed me the calendar that hung in the ticket booth. "This company made this carousel," he said. The calendar bore the name, Chance Rides, Inc., in big bold red letters. And at the bottom was the company's phone number in Wichita, Kansas. I copied it.

Leafing through *The Carousel Animal* again, I found additional sources: the National Carousel Association and the American Carousel Association. I wrote to both organizations, asking for information about books and references that might help me learn the origins of my local carousel. A letter from the National Carousel Association alerted me to several sources in addition to Fraley's book. I searched for them in libraries and book stores and found Frederick Fried's *A Pictorial History of the Carousel*, and Geoff Weedon and Richard Ward's *Fairground Art*. Both are full of information about carousel history and styles. I couldn't find William Mann's *Painted Ponies* which dismayed me because it was described as having good photographs--an important source of visual clues in my search for wooden horse look-alikes for the local fiberglass ponies. I finally found the book and the author at an event in San Antonio that would have gone unnoticed by me if I hadn't been so deeply intrigued by this inquiry into make-believe horses.

On a very ordinary fall day the local TV news announced the auction of a carousel. The machine was an original by C.W. Parker, built in 1917 for San Antonio's Playland Park, a park that had its heyday several decades ago and now was being disassembled. Fortunately, the auction was held on a Saturday morning and, of course, I attended. How fascinating it was to see those wooden horses up close, the way I knew their contemporaries as a child. The size of the outside row horses struck me--much larger

than the fiberglass ponies. The ponies got progressively smaller the further inward they were placed on the platform. The smallest were close to the center post. Those on the perimeter of the carousel were, indeed the largest and most ornate. They were referred by the auctioneers as "King " horses. I checked a glossary of carousel terms in Charlotte Dinger's *The Art of the Carousel*. King horses are defined as large, decorative horses, often wearing armor. The lead horse is the most decorated and distinctive horse on the carousel.

Those ponies on the Parker carousel called king horses were indeed ornate. I searched for the lead horse and found one that I thought met the criteria. The bidding held the answer. While the king horses were sold for prices higher than the majority of the carousel's ponies, a really beautiful one that I had chosen as the lead horse auctioned for the highest price: \$16,000. I was impressed. But it was more than their dollar value that impressed me. The more I studied their physical characteristics, the more easily I could find ancestral evidence for the Brackenridge ponies.

The clues I uncovered at the auction were these: Parker horses all had unusual manes--thick furrows of hair flowed into one another like ocean waves. They had tails to match. And the animals' muscles were defined by gouges. His horses were decorated with open magnolia-like flowers on halter, saddle blanket, and breast band. These original wooden horses reminded me of the popular fiberglass palomino with its flowing auburn mane on the carousel in Brackenridge Park. There--unmistakably--there they were: a prototype of the armored horse and granddaddy of the Brackenridge Indian pony I dubbed "Lonesome", complete with feathers dangling from the halter and an otter's head under the saddle's cantle. I wanted so much to say that the fiberglass ponies were Parker's progeny. But I knew, from my readings, that carvers had borrowed from one another. I had to be cautious. I didn't know enough yet. Even so, I argued that these Parker ponies and the Brackenridge mounts were not just alike in general appearance. They were matched in details. If these horses on the auction block were the ancestors of those in Brackenridge park, how did the Parker style come to be rendered in fiberglass? The question dictated my next move: Call Chance Rides, Inc.

The president of the company, John Streeter, seemed pleased to talk with me about carousel horses. During the first few minutes of our telephone conversation, I realized that he had a great deal of knowledge about the industry and its history and, equally important, he was enthusiastic about sharing what he knew. He gave me some important leads. In that one phone call, I learned that the Brackenridge Carousel was owned by a San Antonian who had designed the black lead pony with the yellow roses to represent the steed his great-grandfather had ridden in the Civil War. "Did you notice the coat of arms on the pony?" John asked. "It contains the Sheridan family emblem: A lion. The horse is black because General Sheridan rode a black horse; its yellow roses represent Texas. That pony was modeled after a horse carved by Loeff."

I had wondered about the lineage of those fiberglass horses and now, the president of the firm that manufactured them was telling me that at least one did hail from an earlier prototype. "What about the others," I asked.

"They do too," John answered. "We have several patterns we bought from Bradley and Kaye. They developed the first molds of the wooden carousel figures that master craftsmen carved at the turn of the century to recreate, in fiberglass, carousel animals for Walt Disney. The big carousels in Disney Land and Disney World were made with the Bradley and Kaye process."

"I've read some about those craftsmen. Which ones carved your horses?"

"The Bradley and Kaye figures are from originals by Marcus Illions, Charles Loeff, Daniel Muller, C.W. Parker, Charles Carmel and Gustav Dentzel." John answered. "Their horses are on Phil Sheridan's carousel in San Antonio."

I was excited now. This telephone conversation has brought me closer to finding answers to my questions than any other source I had consulted to date. Thoughts raced through my head--questions

that I wanted to ask John were piling over one another, heaping into an unruly mound of inquiries. I seemed to be free associating in my quest for knowledge but I didn't have enough information to probe beyond my initial questions. Thus, the disorderliness of my search. I realized that I needed to know more; I needed to immerse myself in the stuff of carousel making. So, I hesitantly asked, "Do you think there would be any advantage to my visiting Chance Rides?"

John's response was an enthusiastic "Yes" with one qualification. He told me that Chance rides held exclusive rights to Bradley and Kaye process of creating fiberglass progeny from their molds of the original wooden carved animals. I was at liberty to examine, photograph, and write about any part of the process except the first step of forming the animals. I agreed and we made plans for a day's visit.

Now anticipating my visit to a destination rich in content about my stimulus for inquiry, I took stock of what I had learned so far and what I needed to find out. I was impressed by both: I had acquired more information about carousels than I had thought existed since that first day when, watching children ride a local carousel, an innocent question about the origins of the horses they chose--or did not choose--to ride was formed. Look where it had taken me. I now knew about the source of the word, carousel, the origins of the painted ponies I had ridden as a child, the prototypes of the fiberglass progeny that grace contemporary carousels, and even the location of their manufacturer. But I didn't know enough. My main question about the origins of the Brackenridge mounts, especially the Indian pony, was still unanswered.

Now I wondered about Bradley and Kaye and their secret process and how Chance Rides actually manufactured the horses. I imagined an assembly line operation, with ponies tumbling from molds onto conveyor belts that would herd them through sanding planes and paint jets toward workers who give them the finishing decorative touches that produce the slick colorful "glitzy" figures I find so appealing. In Wichita I would discover how wrong I was.

The mail arrived one day before my trip laden with clues to my question about origins. The American Carousel Association responded to my request for information with back issue titles of Carousel Art. Many promised historical background and illustrations of the work of a particular craftsman and/or company. Believing that here was a source of information I could use, I ordered a copy of each back issue devoted to a master carver who John Streeter of Chance Rides had mentioned in our telephone conversation (and a few others included in the list--some I hadn't run across before). The Association responded quickly. Stacks of beautifully illustrated magazines arrived. Black and white photographs and line drawings made visual the meanings of the printed text on historical, cultural, and artistic content. And each had a very special insert: An illustrated identification guide. I couldn't believe the richness of the treasure I had found.

I pulled out the photographs I had made of the Brackenridge ponies and began the engrossing task of matching their characteristics against those depicted on the identification guides in those treasure troves of Carousel Art. John Streeter had said that the pony with the yellow roses and the Sheridan coat of arms on the "romance" side (the right side that faces outward from the carousel platform) was from a Looff model. I thought its rose decorations were reminiscent of the pony pictured on the cover of Mann's Painted Ponies. That one was carved by Illions, not Looff. But the master carvers were known to borrow ideas from one another, adapting them as they moved from company to company. So the presence of flowers, no matter how abundant, did not necessarily trace that black pony to an Illions carousel. Even so, I looked first in the issue of Carousel Art on Illions to check out the black pony (could John Streeter have been mistaken?). Several distinctive characteristics popped out, but the most dramatic had to do with the treatment of the mane. No other carver seems to have wrapped the mane forward, across the neck to suggest a wind-blown, tousled effect of speed. I needed to see an ID page on Looff. Here I hit my first dead end. The issue of Carousel Art on Looff was out of print. That black pony would have to remain a question mark for awhile.

I laid out the photographs of the ponies in the outside row of the Brackenridge carousel and something popped out at me. A clue that had ruled out an identification of the pony had relevance for another: The white trotter's mane was swept back across its neck. Flowerless though it was, could this pony's pedigree be traced to Marcus Charles Illions? The Illions ID page gave me some supporting evidence. Illions' ponies had changed over the years from 1890 to 1920, but the forward sweep of the mane was always a distinctive characteristic of this Lithuanian's style. Unfortunately, Charles Carmel's ponies also had manes that swept forward. The Illions ID page describes the face of horses carved in his factory in the 1920s as long and boxy, with a squared lower lip--a characteristic of the Illions pony that was copied by employees by the names of Stein, Goldstein, and Carmel. The trappings are described as symmetrical, and the legs as thinner and straighter than earlier models with "muscles beautifully implied." I saw in the illustration of an Illions pony head on that page, the image of the white trotter's face with its soulful eye and noble bearing. My readings had informed me that "Mike" Illions loved horses--real ones. He owned horses, rode them, and apparently studied their characteristics and behaviors. His carved ponies are known for their realism. The white trotter certainly looked real.

None of the other king horses on the Brackenridge carousel was like the white trotter. They impressed me as being more stylized. They also seemed wilder-- except for the Arabian. This one with its cropped mane and strapped neck seemed to have no characteristics I could clearly connect with any of the identifying features of the master carvers. The realism of his missing tooth made me wonder if this was an Illions creation. But then other carvers were known to leave teeth out now and then. A more definitive clue emerged from a detailed examination of the pony: Little wrinkles at the joint of the upper front leg with the body are associated with the carvings of Charles Carmel. But nothing else surfaced.

The palomino, the hunter, the one with the following auburn mane, the Indian pony (the one I had nicknamed, "Lonesome"), and even the armored horse, all seemed to qualify as progeny of Charles Parker. They all shared deep gouges in their legs to represent tensed muscles, and all had angular knees on their rear legs. According to Carousel Art's ID page for Charles Parker's work, these ponies were clearly his creations. The "skeined" manes, another Parker characteristic, were thickly textured on the palomino and auburn-maned ponies. And the wooden prototype of "Lonesome," the pony with the feathers in her halter, was actually pictured in the issue on Parker. There she was with flared nostrils, curved tongue, upturned head, thickly textured mane, feathered halter, and even the otter head peaking out from under the cantle. I felt tentatively sure of my other IDs. "Lonesome" was another issue. I was certain that she hailed from the Parker factory.

The ponies with the least appeal for me were the most numerous ones on the Brackenridge carousel. I thought they were funny looking with heads that seemed too long and thick for their bodies. They are unadorned ponies, simple carbon copies with little distinctiveness. Initially, I didn't bother to inquire about them. The larger, fancier ponies captivated me. They were, after all, reminiscent of those I knew from my childhood. These ponies seemed of a different generation. Were they newer progeny of the fiberglass factories?

The heat in Wichita was intense on the July day, just after the Fourth, when I arrived at Chance Rides, Inc. An incessant wind blew dry, dusty air across land as flat as a pancake for as far as I could see. I had read about the Kansas plains, but this was my first direct experience with perfectly level land of seemingly endless sameness. On a huge tract of that terrain stand the neat and clean buildings of Chance Industries, builders of conveyances for mass transit as well as amusement rides, including the carousel of my inquiry. John Streeter was expecting me. When I walked into his office building, I found myself surrounded with reminders of carousels. One half of a full size fiberglass pony, decorated with glass beads, rosettes, and colorful paint, hung on the foyer wall. Chance Rides calendars, with a full color photo of one of their carousel ponies, seemed strategically located in the several offices I passed

through. Here and there a framed photograph of historic and contemporary carousels caught my attention. I felt that I had hit the mother lode.

"What would you like to know?" the company's president asked. I pulled out my photos of the Brackenridge lead ponies. A few questions trickled out: "How you make these horses? Where do they come from? And, why are these the most common horses on the carousel in Brackenridge Park?" I was referring to those smaller thick-faced horses, so plain in comparison with the others on the carousel's outside row.

"Let's go find out," he responded, and led me through a labyrinth of spotless hangers and yards, perfumed with the scents of polyurethane and the harsher aromas of latex paints. There was lots of working space and everything was clean and neat. Not one conveyor belt with robotic assemblers was in sight. My predicted image of the place was not verified. As we moved through these working spaces with their huge fans circulating the hot July air, John introduced me to the people who could answer my questions--and would cause me to frame new ones. Then he turned me loose.

Where should I begin? There was so much to see and a lot more to understand than I could have imagined before visiting this place. I decided to begin at the building where I had seen about six people, wearing jeans and surgical masks, carving those thick-faced fiberglass horses and painting intricate designs on them. Robert Hall, their supervisor, was obviously pleased to talk with me.

"I expected an automated process," I told him. "What are these workers doing?"

Robert explained that the molds that were made from the original wooden horses often lacked sufficient detail to produce a good copy. Apparently, years of wear on the wooden ponies and the build up of amusement park paint, often many layers thick, made it impossible to mold a detailed likeness. So the fiberglass ponies have to be plugged and carved. With Robert's direction, I found my way to the area where the sections of the fiberglass horses were emerging from their molds. The pieces were put together like a life-size model, clamped, and sealed with fiberglass on the inside and with putty on the outside. I watched as another worker completely spray-painted the horse with the thick gray primer. The pony's rough edges were then sanded and green color spot putty was added to cover the blemishes, sanded, and spray painted with the white primer, then with the body color, and next covered with a latex mask. Each member of Robert's crew was further crafting the pony by carving detail into a mane, an eye, a nostril, a flower or by painting designs on the saddle blanket.

"How do they know what to do?"

"They know the patterns." Robert said. "These are the Chance horses," he added with the pride of ownership.

At this point I made an assumption that the Chance horses were exclusively fiberglass progeny. Therefore, I wasn't particularly interested in them. I wanted to know more about the shiny black horse with the yellow roses and "Lonesome," the Indian pony, on the Brackenridge carousel. They were the Bradley and Kaye horses, modeled after original creations of Parker, and Illions, and Looff, and the other turn-of-the-century carpenters-turned-carousel carvers. Back in John Streeter's office I found verification. He pulled a Chance Rides, Inc. brochure for me. And there they were. The black pony was identified as a Looff. All the others were based on the carvings of Charles Parker, "Lonesome" included. The Arabian was a Carmel creation and the white trotter, with its forward-swept mane and soulful eyes were, indeed, a result of Illions' craftsmanship. It felt good to know that my reasoning had been correct.

The opportunities for detailed observation had been challenging. I had learned to see with greater precision as I compared minute details on those ponies to find clues to their origins. I had raised questions, formed and tested hypotheses, collected and interpreted data to test my assumptions. I had been tempted on several occasions to jump to conclusions based on insufficient data. But the painted ponies challenged me because their originators had borrowed from one another so extensively. And

yet, even with those confounding variables, I could trace a pony's lineage if I attended to the unique clues.

The satisfaction at having solved--and verified--one small piece of my puzzle spurred my thinking. I returned to the workplace for another look, thinking that I might see something I had missed when I had been preoccupied by the nagging questions about the ponies' origins. In Robert Hall's shop, they were still plugging and carving horses. The fact that the details were not carved by machine but by hand by different people seemed to argue for some degree of uniqueness in each pony. If so, I should find variations in them. On first glance, ponies of the same general pattern seemed not to differ. But now, my examination was more informed and I saw more. While each one conformed to a particular outline, I found small variations in details, like the roses and the Cherub's face on the Looff horse. Careful inspection of the others uncovered differences in mane texture and in the relief of those marvelous images of things hanging from the saddle or peeking out from under the cantle. I now found myself paying attention to the color differences in manes and hides and to the designs on saddle blankets, saddles, and halters. These were especially intriguing because those I saw in illustrations of the original wooden carved horses seemed different from the designs on their fiberglass progeny. Were the designs evolving? If so why? Did it have something to do with the hand-fashioned processes I was witnessing? I realized that evolutionary trends would be difficult to find--if they did exist--unless I had access to several generations of painted ponies of the same lineage. I didn't have that with the Bradley and Kaye horses, derived from the beautiful originals by master carvers. I couldn't explore "Lonesome" or the Palomino or the Looff rose-bedecked horse because I didn't have access to their several generations. But I could trace the Chance horses. Those thick faced, large headed ponies suddenly took on new value.

I went back to John Streeter's office for a follow-up conversation. He introduced me to Ed Widger, a former employee of the Allan Herschell Company of North Tonawanda, New York. When Chance Manufacturing Co. bought the Allan Herschell Company, Ed joined the new owners as company historian. He showed me an old photograph of the North Tonawanda factory--a series of wooden structures on several acres that, he remembered, were rickety fire traps when he first saw them.

"Why North Tonawanda?" I asked.

"Lumber," Ed replied. "North Tonawanda was right in the center of the lumber industry." He went on to tell me that the Herschell brothers started out there, first joining James Armitage in making portable carousels. When the depression at the turn of the century closed down the Armitage-Herschell Co., Allan Herschell joined forces with his brother-in-law, Edward Spillman, to form the Herschell-Spillman Co., in North Tonawanda. This added a new dimension to the effort: Herschell was a woodcarver, Spillman, an engineer. The company was more than a maker of amusement rides. It also manufactured engines for motor vehicles. Its engine production capabilities brought the company government contracts during WW I.

A complicated business history of the several partners lost my interest until Ed mentioned his early days working for the Allan Herschell Company, the ultimate survivor as a competitor with Spillman Engineering and later buyer of that firm in 1945.

"The horses used to be made of wood," Ed told me. "All parts of the horse used to be carved by hand. Then, to cut costs, the company used carving machine that would rough carve several torsos at one time. Master carvers would carve the legs, tails, and hair. The torsos stood up pretty well under the strain of the travel, assembly, and hard use of traveling carousels, but the legs were destroyed first. Then they tried aluminum. Light weight and sturdy, aluminum legs could be attached to the wooden torso and survive the rough treatment the traveling ponies got. The legs worked so well, the aluminum heads and tails were added and finally, the entire horse was made of the metal. Aluminum made a good pony."

Ed pulled a letter from the archives to show me. It was signed by J. Wendler, President of the Allan Herschell Company and dated September 28, 1951. It reads:

Dear Friends:

Ever since the August 27, 1951 issue of Life Magazine was put on the market, we have been receiving letters inquiring whether we can furnish new or used horses. We are very sorry that we are unable to furnish either new or used horses at the present time. Our Merry go-round horses are made of aluminum and this is one of the metals which is under Government control. We are not able to procure enough of it at this time for our own requirements. Of course, if the war situation should improve and aluminum should become more readily available, we may be in a position to assist you and or many other friends who are interested in purchasing horses.

J. Wendler was referring to the Korean War. I would not have thought that war had any impact whatsoever on the carousel horse. Ed seemed to anticipate my unspoken question about why fiberglass replaced aluminum in the manufacture of contemporary carousel horses. "Aluminum foundries were closed by the government for pollution control," he told me. "Their original charge of \$34 for one-half a horse jumped to \$185 in a year's time. Aluminum would still be in use if it hadn't been priced out."

I went back to the work area to look again at the fiberglass progeny of the earlier Hirschell mounts. Several decorated ponies were standing in a row. A fine-lined scroll work of Asian character swirled over their saddle blankets. No two were exactly alike in design or color. What puzzled me most was that the decorative work looked nothing like the bolder designs I had seen on pictures of their prototypes. I wondered why.

I found the answer in the painter. A Laotian had found his way to Wichita. He had no way to make a living except to paint the designs that are commonplace in his country. Those delicate designs are very different from the bold patterns that mark the original wooden carved horses. In fact, they seemed to me out-of-place on the energetic ponies. I wondered: What were the origins of those designs? My husband had seen designs like those made by children in East Asian streets where he had been stationed while on military duty. I wondered: How commonplace are they? What meanings do they have?

I called the local Museum of Art for information and was referred to a member of the Asian community in San Antonio. My informant told me that the decorative work on the carousel horses was derived from popular culture. This graphic form was taught in primary school and became part of most everyone's repertoire. The Laotian artist at Chance Rides, Inc. was using something akin to a "hand-writing style" to decorate the painted ponies.

Soon after I returned to San Antonio, I found my way back to the Brackenridge carousel to have another, more informed look. This time, I examined the square faced ponies more closely. I ran my finger along their Asian designs and stood back to see them better. And then the horse began to move. The strains of a pipe organ march gained momentum as the carousel increased its speed. Who wrote that music, so typical of the carousel? What are its origins? My inquiry was moving into musical forms. I got some titles from a tape that Chance Rides produced. They included: Over the Waves, America's Finest, The Marines' Hymn, The Billboard March, Sidewalks of New York, Sweet Rosie O'Grady, King Cotton, Artist's Life, and School Days. I knew some of the melodies from old movies and recordings. They hailed from the 1890s. That made sense. The turn of the century American carousel turned to the popular music of its day. What fun it would be, I thought, to track down those tunes and the composers and to study the lyrics for clues to their times. A local sheet music store had a selection of "gay nineties" tunes. Many are marches. The melodies and their lyrics are notably upbeat and they lend themselves to being played on the organ, the preferred instrument for carousel music.

How do they move? I wondered as I watched the horses rise and fall to the beat of the carousel music. When it slowed down, I hopped on the platform and looked up. Under the canopy was a network

of shafts. The pole of the horse called "Lonesome" was hooked onto a eccentric section. The Chance horses abreast of "Lonesome" were connected to other eccentric sections on the same shaft. The horses in the preceding row were each connected by their brass poles to eccentric sections of their own shaft. The horses in the row behind also had their own common shaft. Each shaft ended in a small gear which meshed with a large stationary gear that encircled the central post of the carousel. When the carousel platform was set in motion, revolving around the stationary central post, the shafts connected to the horses' brass poles began to turn. As the gear turned, so did its shaft with its eccentric sections. Every pole moved up and down and back and forth. The horse beside "Lonesome" moved forward and downward while "Lonesome" was moving backward because the eccentric sections of their shared shaft were in alternating positions. What impressed me most was that a fairly simple set of eccentric shafts, connected to movable gears that were rotated when their teeth were engaged with those of a large central immovable one by a revolving platform, could make riders feel as if their carousel horses were galloping forward. There was more to the motion than this, but it seemed to me that the great network was central to understanding the ponies' movement.

What will happen to the carousel? All the information I had gathered spoke to me of painted ponies based on the patterns at the turn of the century but physically smaller and of manufactured material.

Then a letter arrived from Conneaut Lake Park in Pennsylvania, informing carousel enthusiasts about the opening of a new carousel comprised of modern hand-carved wooden figures. I wrote to Charles Flynn, the President and General Manager of the amusement park for information. His response alerted me to a values issue. The Conneaut Lake Park had sold its original carousel with horses by Charles Muller because they brought collector's prices. For a substantially lower cost per figure, the park purchased brand new hand carved wooden horses and menagerie animals. Most of these were based on the original patterns of the old masters. A few were uniquely modern designs. A firm by the name of Carousel Works fashioned the wooden carousel figures purchased by Conneaut Lake. The dilemma is whether an original old carousel should be broken up to be replaced by brand new figures. Some carousel enthusiasts believe that preservation of the original carousels should be the historical and cultural imperative. Others believe that the old wooden carousel figures should be enjoyed in museums and that a new generation of hand-carved wooden figures should replace them so that the art of the carousel can continue to evolve. Alice Walker of Conneaut Lake Park told me, during our telephone conversation about this, that there are unique features on the Conneaut Lake Park Carousel. One is a pirate cat that came to be because it was created by an apprentice carver who could not make both of the cat's eyes exactly alike. His solution was to put a patch over one, and the unique pirate cat was born.

Some Thoughts on the Study of Carousel Horses

Carousel animal replicas abound in novelty and gift stores, attesting to their nostalgic value. Collectors spend thousands of dollars to purchase and refurbish the original wooden figures. While Chance Rides renders original patterns in fiberglass for the international market, contemporary designs for amusement park carousels are crafted by woodcarvers in Ohio and Mexico. What form will the carousel take in years to come? I ended my inquiry into painted ponies on that forward-looking, hypothesis-seeking question. I had come full circle. The fiberglass horses that had prompted my first questions about origins of the carousel, caused me to investigate more than history. My investigations helped me to see the art and craft of the carousel, the physics of its movement, the economics that directed its development, its musical context, and the cultural factors that shaped and continued to shape the art form.

It all started with a question about fiberglass replicas of wooden carousel horses I had known as a child. That innocent question led me on an archeological "dig" for answers. The detective work was

initially inductive: I kept looking for clues, finding patterns and arriving at inferences, many of which became working hypotheses. Often, I encountered more questions than answers. But as I learned more, the questions became more probing, more insightful, more answerable. The search was interdisciplinary throughout. Even though I could find myself immersed in one discipline for awhile, as was the case when I was deciphering the system of gears and overhead eccentric shafts to determine how the horses moved, the thinking I did to figure out the answer to a question in science, for instance, led me to think about the future of the carousel and how technology might change what hadn't been changed in almost a hundred years.

For each question I raised, I had to find sources that would supply salient clues. Sometimes my inferences were sufficiently substantiated by fact to become conclusive, as for instance, my inquiry into the origins of the painted ponies I saw on the Brackenridge carousel. This was like historical research. Others, like my assertion about how a carousel horse moves, became hypotheses that I tested with a physical reconstruction of the mechanism. I sought and found patterns, paying attention to details. To answer some questions, like the one about the carousel's technology, I formed visual reconstructions and built models. Throughout, I actively looked at my subject from different disciplinary perspectives and explored alternative interpretations of the information I had gathered. In finding answers to my questions, I discovered that so relatively insignificant a thing as an amusement ride is influenced by changes in its cultural, economic, technological and sociological environment. The richness of my interdisciplinary inquiry derives from its diverse perspectives and from the detective-like character of its search.

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--A New Episode in The Case of the Carousel

Whenever I see a carousel or a reference to carousels, I take notes. And sometimes I find new clues to questions I had posed earlier but was unable to answer.

One of the unanswered questions in my inquiry into the carousel was: What will the carousel become? My studies had detected tension and, sometimes, hard feelings between traditionalists, who believe that the true art of the carousel resides in the wooden animals of the carousel built at the turn of the twentieth century, and modernists, who embrace fiberglass reproductions and the development of a twenty-first century carousel art form. At the time, I wondered if anyone would break new ground with the carousel, using the form to cross over from popular craft to fine art. After all, I reasoned, today we enjoy a very wide spectrum of styles and subjects that meet contemporary criteria of "high art"

On Sunday morning, the twenty-second of November, 1998, I was reading my treasured Sunday edition of *The New York Times*. Turning to the Arts and Leisure section, my eye caught a large photo of an unusual looking carousel under the title, "Red Grooms's Merry New Merry-Go-Round" (Filler, 1998). The article describes a public art project of Red Grooms -- a full size carousel called,

"Tennessee Fox Trot Carousel". The figures include some animals, though not the traditional horses: a huge chigger, a catfish, and a fox. Most are people: heroes of Tennessee including Andrew Jackson, Davy Crockett, the Everly Brothers, Wilma Rudolph, Sequoyah, Anne Dallas Dudley (suffragist), Isadore Lewinthal (Rabbi), Charlie Soong (father of Madams Sun Yat-sen and Chiang Kai-shek), and members of the Grand Ole Opry, to mention a few.

The methods of creation and fabrication are noteworthy too. Grooms drew the pieces which were sculpted in styrofoam. He painted molded forms of polyester resin. These were sealed with urethane to withstand wear and tear. Throughout this work, Grooms had to consult experienced fabricators who advised him on mechanical requirements for a balanced, well functioning, and safe amusement ride.

Here, I thought, is evidence of the evolution of the carousel, not only in subject and material, but also as an art form. I have long felt that the carousel has not been fully appreciated for its unique and enduring qualities in the fields of art and engineering; too many still view the carousel as trivial because it represents popular culture. Perhaps Grooms' introduction of the carousel into the realm of public art will elevate its status. I wonder: Will the carousel develop as a public art form into the next century? If so, what shape will it take?

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