

UNIVERSITY OF CALIFORNIA

Santa Barbara

Bred for the Race: Thoroughbred Horses and the Politics of Pedigree, 1700-2000

A dissertation submitted in partial satisfaction of the  
requirements for the degree of Doctor of Philosophy  
in History

by

Brian Patrick Tyrrell

Committee in charge:

Professor Peter Alagona, Chair

Professor W. Patrick McCray

Professor Alice O'Connor

Professor Paul Spickard

June 2019

The dissertation of Brian Patrick Tyrrell is approved.

---

W. Patrick McCray

---

Alice O'Connor

---

Paul Spickard

---

Peter Alagona, Committee Chair

Bred for the Race: Thoroughbred Horses and the Politics of Pedigree, 1700-2000

Copyright © 2019

by

Brian Patrick Tyrrell

iii

## ACKNOWLEDGEMENTS

A funny thing happened on the way to this dissertation. Despite my best efforts, I put down roots in Santa Barbara.

Santa Barbara, a town of 90,000, sits on a narrow spit of land between the Pacific Ocean and the Santa Ynez Mountains on California's Central Coast. It's just far enough from Los Angeles to make frequent trips to Southern California's megalopolis impracticable, and its vineyards, beaches, and sky-high real estate prices have earned the city its reputation as the American Riviera. Nothing about the place, in other words, suggested graduate school life.

But when I arrived on campus in 2011, I encountered an extraordinary community. For better or worse, during my first years of course work the history department graduate student offices served as a social nexus. Any time day or night at least one of the following people could be found there, either working hard or looking to be distracted. Samir Sonti, Cody Stephens, Sasha Coles, Kit Smemo, Heather Berg, Kali Yamboliev, Jackson Warkentin, Chris Kegerreis, Sarah Hanson, Paul Barba, Eric Massie, Munther Al-Sabbagh, Ibrahim Mansour, and Joe Figluilo-Rosswurm all contributed to an intellectual atmosphere that was at once collegial and rigorous.

The history department's intramural basketball team deserves special mention for getting up off the mat after losing to teenagers—sometimes horribly—every quarter. Laura Moore, Casey Ortiz, Kolby Knight, and Will Murphey deserve special mention.

Graduate school wasn't all fun and games though. From my first day on campus, I benefited from a community of people interested in interdisciplinary environmental studies.

Through a variety of field trips, pizza-and-beer seminars, and a long weekend in Yosemite we built, as our leader was fond of saying, “community in nature.” Members of the Santa Barbara Environmental History Workshop who read and commented on my work and helped this project along include Maximilien Stiefel, Sienna Cordoba, Jennifer Martin, Karly Miller, Paul Warden, Masha Fedorova, Elijah Bender, Tim Daniels, Tom Doran, and Zoe Welch. While I was at Santa Barbara, the history of science program flourished. Elena Aronova, Kate McDonald, and Gabriela Soto Laveaga helped me to put my dissertation in a transnational context. Eun-Joo Ahn helped me organize a conference and build relationships with graduate students at other UCs. The final chapter of this dissertation reflects the time I spent researching the history of DNA nanotechnology while a graduate fellow at the Center for Nanotechnology in Society. I’d like to thank specifically Amy Slaton, Cyrus Mody, Roger Eardley-Pryor, Tristan Partridge, Barbara Herr Harthorn, Miriam Metzger, and Brandon Fastman.

I benefitted from intellectual relationships outside of UCSB as well. When I began this project, I thought I must be the only person studying the history of horses. Attending the Galloping History Conference in Ankara, Turkey, I met Kathryn Renton, Gwyneth Talley, and Philip Homan. Amazingly, that was not the only horse-themed conference I went to thanks to the Equine History Collective. Kat Boniface and Amber Roberts Graham. For my money there is not a better experience for history of science graduate students than the Biennial Ischia History of Science Summer School. The week-long seminar introduces graduate students to top international faculty and a worldwide network of graduate students as well as the curative effects of swimming in the Mediterranean and wine lunches. From Ischia I’d like to thank Nick Hopwood, Sujit Sivasundaram, Janet Browne, Joe Cain, and

Helen Rozwadowski. I'd also like to thank David Sepkoski, Garland E. Allen, and an anonymous reviewer at *Historical Studies in the Natural Sciences* for improving my work.

Early on in graduate school, my advisor told me that a dissertation is a document that details what you've read and where you've been. I'd add that it's also a ledger of debts accrued. Through the process of this dissertation, strangers opened their homes to me. Here I'd like to thank Shekinah Lavelle in Louisville and Dave Cohen in Charlottesville, as well as Sienna Cordoba's grandmother, Heidi, in New York's Finger Lakes region. Several librarians and archivists made suggestions or provided company that helped this project along. These are Anne Johnson in special collections at William & Mary, John Connolly and Mickey Gustafson at the National Sporting Library, and Stephanie M. Lang at the Kentucky Historical Society.

My friends in New York and New Jersey offered me their couches or their floors while I visited home—and maybe most importantly called me out when I slipped up and referred to California as home. I'd like to thank Diana Valenzuela, Keith Cashman, Danielle Sansone, Dan Meehan, Katie Lacasse, Matt Caputo, Jayme Gonzalez, and Chris Barone for continuing to be there, both geographically and emotionally. They were all at some point inconvenienced by my long absences and long stays. Andy Kochman and Kelly Demyan opened their home to me two consecutive summers and allowed me to use the phrase “summering in London” to describe my time there.

Without a doubt the reason I slipped up and called California home had to do with my friends and roommates in Santa Barbara. These people include Dave Baillargeon, Caitlin Rathe, Tim Paulson, Jessica Marter-Kenyon, Andy McCumber, Laura Halcomb, Kevin

Brown, Andrew Elrod, Nick Trebelhorn, Beatrice Contreras, Jean-Paul de Guzman, Jesse Halvorsen, and Sarah Johnson.

All of the people mentioned above contributed to this project in one way or another, but most of them probably didn't read all that much of it. My committee members deserve special thanks for slogging through draft after draft of labored prose and bad ideas. Their critical feedback immeasurably improved the dissertation. While I'm sure that errors of fact and interpretation remain, I'm certain there would be more had they not read this dissertation. Paul Spickard challenged me to think more clearly about race and helped sharpen the writing as well as providing me with some cheerleading when I needed it. Alice O'Connor astounded me with the rigor she approached my dissertation with. It is humbling to have such an incredible scholar take my ideas seriously and spend so much time with them. Patrick McCray really took me under his wing, and while he was not formally my co-advisor he certainly spent an advisor's amount of time with me and with my work. He hired me to work with him at the Center for Nanotechnology in Society where he oversaw my project as if we were scientists in a lab. Not only did he guide that project, but he helped me get comfortable making presentations and going to conferences. My advisor, Peter Alagona, is the kind of advisor any environmental historian would want. I came in with a cohort of four environmental historians, and Peter began advising us by taking us all camping at Figueroa Mountain. His idea of "community in nature" really took off with his environmental history workshop, which attracted graduate students from across the university, not just the humanities. Peter also introduced us all to the University of California Natural Reserve System, which includes ecological research sites throughout the state including Yosemite and Mammoth. Peter pushed this project along, coached me in my moments of doubt, and

tolerated me when I was a know-it-all first year. The most important thing Peter taught me was how hard it is to write. Hopefully that has made me a more understanding and empathetic person.

Nobody dealt with the ups and downs of graduate school than my family. For years I lived with my brother, Chris, as I pursued my dream of being first a professional dog walker then an environmental historian. Over those years Chris put up with my strange hours and weird habits, and I think we became much closer. A few years ago Paula joined the family, and I couldn't be happier for her and Chris. Their son, Wesley, was a great distraction from my last year of graduate school.

Words cannot express how much I owe my parents. Their support has carried me through all the obstacles I've faced in my life. Everything I've done I owe to them.

VITA OF BRIAN PATRICK TYRRELL  
June 2019

EDUCATION

Bachelor of Arts in History, University of Notre Dame, May 2007

Master of Arts in History, Rutgers, the State University of New Jersey-Newark, January 2010

Doctor of Philosophy in History, University of California, Santa Barbara, [Month 2019]  
(expected)

PROFESSIONAL EMPLOYMENT

2011-2013, 2017: Teaching Assistant, Department of History, University of California, Santa Barbara

Summer 2016: Teaching Associate, Department of History, University of California, Santa Barbara

2013-2016: Graduate Student Fellow, Center for Nanotechnology in Society, University of California, Santa Barbara

2015-2018: Teaching Assistant, Writing Program, University of California, Santa Barbara

2018: Teaching Assistant, Environmental Studies Department, University of California, Santa Barbara

PUBLICATIONS

“Bred for the Race: Thoroughbred Breeding and Racial Science, 1900-1940,” *Historical Studies in the Natural Sciences* 45, no. 4 (2015), 549-576.

AWARDS

Lawrence Badash Prize for the outstanding graduate student essay in the history of science, technology, or medicine or on weapons control, University of California, Santa Barbara

FIELDS OF STUDY

Major Field: Environmental History

History of Science with Professor W. Patrick McCray

United States History with Professor Alice O’Connor

Comparative Race and Ethnicity with Professor Paul Spickard

## ABSTRACT

Bred for the Race: Thoroughbred Horses and the Power of Pedigree, 1700-2000

by

Brian Patrick Tyrrell

The story goes that all thoroughbreds, unless bred fraudulently, descend from three foundation sires taken to Great Britain from the Levant, the Maghreb, and Arabia in the late-seventeenth and early-eighteenth centuries. That's just a story, though, and a breed is more a term of art than a scientific fact. Historian William Cronon implored environmental historians to tell "stories about stories about nature." The stories people told about thoroughbreds over the breed's three-century history illuminate unspoken assumptions of their society, assumptions about how inheritance works, about how to organize labor, and about how humans see themselves in their environments. What, for instance, is inherited alongside genes? The language of inheritance is lacking. It conflates the biological, the inevitable, with the social. Inheritance is a social process as well as a biological one. Humans tell stories to make sense of the things carried on from the past; and what we mean when we say something is inherited, includes both the social and the biological. The stories about thoroughbreds are powerful precisely because they make the social, the messy, contingent, and constructed past, seem natural. Thoroughbred breeders narrated their animals in various ways using pedigrees, landscapes, animal bodies, standards, and DNA analysis to tell their

stories. I argue that a comprehensive understanding of inheritance must accommodate the discourses that informed breeding decisions. These discourses, as much as genes, had real, material effects on both animals and people.

As a category, the thoroughbred has remained more or less constant for three hundred years allowing historians to identify how the discourse around thoroughbreds changed over time, place, and political economic regime. My dissertation begins in the desert outside Aleppo at the turn of the eighteenth century in what was then the Ottoman Empire. British traders working for the Levant Company brought Arabian horses back to Great Britain where they were put to native mares to produce exceptional running horses that became totems of the restored monarchy. When Virginia cavaliers sent their sons to Cambridge for university, the young men grew fond of horse racing and shipped their favorite stallions back to the colonies. In Kentucky, thoroughbred owners found a landscape with calcium-rich soil amenable to raising horses for racing. The American Civil War destroyed the South's horse country, and industrial capitalists from the North adopted thoroughbred racing as their preferred pastime. The new political economy of horse racing prompted a standardization of the breed that turned the animals into fungible commodities. Standardization expanded the geography of horse racing during the Gilded Age, and California's robber barons struggled to turn their arid latifundia into western simulacra of Kentucky's Bluegrass Region. With the rediscovery of Mendelian genetics in 1900, racist thinkers seized upon the thoroughbred to promote ideas of eugenics and racial progress. By the 1980s, thoroughbred racing had been securitized and investors turned to the emerging science of genomics to guide their investments, using thoroughbred horses to promulgate an updated version of genetic determinism.

This dissertation follows the thoroughbred breed from its foundation sires in the eighteenth-century Ottoman Empire to the modern animals competing in a globalized horse racing industry. In eight chapters, I investigate thoroughbreds as they fanned out from Great Britain to breeding farms in countries as far flung as Argentina and Zimbabwe. Each chapter focuses on a place and a theme. Chapter One, set in the Ottoman Empire, examines the technology of the animal pedigree adopted from Bedouin traders. British breeders used the pedigree and put a premium on inherited characteristics. Chapter Two identifies the political meaning of breeding as the thoroughbred developed in Great Britain. The thoroughbred became synonymous with the restored monarchy and an emblem of Britishness despite the horses' obvious Eastern origins. Chapter Three studies the role of the breed in defining a landscape, in particular Kentucky's Bluegrass Region. Thoroughbred owners in Kentucky's Bluegrass used their property, both animal and human, to create a landscape that both supported equine reproduction and celebrated the noble animals. Chapter Four follows the adoption of thoroughbred horses as a new form of capital for the American industrial class. Following the Civil War, American industrialists used horses as banks of stored capital and as cultural capital that established the industrialists on the same footing as European aristocrats. Chapter Five highlights the intellectual work necessary to creating thoroughbreds as banks of stored capital. As the scope and scale of raising thoroughbreds increased, owners needed guarantee that a thoroughbred from California was the same as one from New York. Chapter Six moves the narrative to California and shows how that state's robber barons used thoroughbreds to imaginatively express their vision of industrial capitalism in the western United States. Chapter Seven argues that the elite culture of thoroughbred racing provided racist thinkers an animal to adopt as experimental animals that purportedly exhibited

biological progress. Thoroughbreds, with hundreds of years of pedigrees and breeding data, provided the necessary raw materials for racial scientists. Chapter Eight shows how resilient this narrative of biological progress has been. During the 1980s, increasing capital investment required assurances of success. Investment bankers looked to academic geneticists to provide value for their investments. New genetic testing led to a retrenchment of biological determinism.

The stories people told about thoroughbreds—they were myths, really—still shape the industry today and trickle down and inform popular conceptions of inheritance. My dissertation argues that the stories people tell about their livestock have both material and intellectual consequences. Believing that thoroughbreds were noble, gendered, and British by birth justified all kinds of behaviors from land use decisions to scientific racism. From a biological perspective, reproduction is always conservative. Reproduction preserves genes from one generation to another. By looking at the stories people told about thoroughbreds, I show how historical actors used animal husbandry to reproduce and justify the status quo.

TABLE OF CONTENTS

I. Introduction: Frankfort Road.....1

II. Imperial Envy.....22

III. Becoming British.....42

IV. Breeding the Bluegrass.....64

V. Industrial Horse Power.....105

VI. Standard Thoroughbred.....136

VII. Bringing the Bluegrass West.....164

VIII. *Cherchez le Cheval*.....196

IX. Futures Perfect.....224

X. Epilogue: Re-Arabizing the Thoroughbred.....250

## LIST OF FIGURES

Figure 1. William Powell Frith, <i>The Derby Day</i> , 1856-58. Oil paint on canvas, 100cm x 220 cm. Tate.....	58
Figure 2. Physiographic Diagram of Kentucky, United States Geological Survey.....	70
Figure 3. Edward Troye, <i>The Undefeated Asteroid</i> , oil on canvas, 28 ¼ x 38 ¾ in., Virginia Museum of Fine Art.....	90
Figure 4. Inner Bluegrass Slave Population, 1790.....	93
Figure 5. Inner Bluegrass Slave Population, 1800.....	94
Figure 6. Inner Bluegrass Slave Population, 1810.....	94
Figure 7. Inner Bluegrass Slave Population, 1820.....	95
Figure 8. Inner Bluegrass Slave Population, 1830.....	95
Figure 9. Inner Bluegrass Slave Population, 1840.....	96
Figure 10. Inner Bluegrass Slave Population, 1850.....	96
Figure 11. Inner Bluegrass Slave Population, 1860.....	97
Figure 12. Ashland, the Henry Clay Estate, Lexington, Kentucky.....	100
Figure 13. An entry from the <i>General Stud Book</i> .....	160
Figure 14. Harry H. Laughlin's Three-Dimensional Models of Thoroughbred Inheritance, Harry H. Laughlin Papers, B-2-2:19, Yardstick, Truman State University.....	219

**Introduction**  
**Frankfort Road, 5 June 2015**

*“To me, the track is what the river was to Mark Twain. Where you see the most life and interesting people, go there. That’s what I’ve done.”—David Milch, co-creator, NYPD Blue and Deadwood<sup>1</sup>*

What surprised me most the first time I saw thoroughbreds having sex was just how many people were involved. The consummation occurs in a barn, and along with the two horses, I counted nearly ten people in there. There were veterinarians and technicians watching computers in an elevated gallery that resembled a DJ booth. The men closest to the action wore chest protectors and helmets like baseball catchers. Two people soothed the mare and one steadied the stallion. It’s one person’s job to slide a padded cylinder between the stallion and the mare as the stallion mounts her. This device acts like a chaperone at a middle school dance, preserving a little distance between the horses. Without this assistance, the horses risk coital tearing. Kicking is a problem too, so mares wear soft foam booties. Overall it’s more American Gladiators than *An Affair to Remember*.<sup>2</sup>

If there’s any romance at all in thoroughbred breeding it belongs to the teaser stallion. While he nestles and caresses the mare, an army of workers watch. They note how the mare responds to the male’s advance and record her vaginal temperature. The barrier between the animals insures that the encounter won’t—it can’t—end in sex for the teaser. He’s the equine equivalent of Duckie from *Sixteen Candles*, the lovable nerd who loses out to the handsome jock. Somebody paid thousands of dollars to transport a mare, board her on the farm, and

---

<sup>1</sup> David Milch, quoted in Rebecca Cassidy, “Introduction,” in Rebecca Cassidy, ed., *The Cambridge Companion to Horse Racing* (Cambridge, UK: Cambridge University of Press, 2013), 1.

<sup>2</sup> Throughout my trip to the stud farm I had journalist Kevin Conley’s book *Stud* in mind. See Kevin Conley, *Stud: Adventures in Breeding* (New York: Bloomsbury Publishing, 2008). For a look inside the breeding shed, see Chapter One, “A Stud’s Life.”

impregnate her with the right stallion's semen. In regions where thoroughbred breeding dominates the economy, teasers are the unsung heroes. They grease the gears of the biological machine by making sure the mare is receptive to a male horse and that she's hot to trot by the time the stud gets there. In the wild, there are no teaser horses, but dominant stallions preside over harems passing their genes on to entire cohorts of foals. Mares ovulate in the spring, their bodies responding to the increased sunlight from longer days. From an evolutionary perspective, this makes sense. A horse's gestation period lasts eleven-and-a-half months, and ovulating in springtime is nature's way of hedging that there will be ample pasturage when the newborn foal arrives.

But this is thoroughbred breeding, and nothing makes sense.

At Ashford Stud outside Lexington, Kentucky, the breeding season kicks off on February fifteenth. There are no flowers or chocolates left over from Valentine's Day. Breeding is business here, and the sex is purely transactional. Regardless of the actual day a foal drops from the womb, the Jockey Club, which oversees thoroughbred breeding and racing, records the birthday as January first. Breeders try to have their foals born as close to New Year's Day as they can to give them as much time as possible to gain muscle and stamina before the start of their two-year-old racing season. To bring mares into estrus months earlier than they would otherwise, breeders inject them with hormones and keep them under special sun lamps.

A handsome man in his early twenties with an Irish accent explains all this to a tour group of agricultural historians. Ashford is the Kentucky home of Coolmore Stud, the world's largest thoroughbred breeding operation. Based in County Tipperary, Ireland, Coolmore operates stud farms in Ireland, Kentucky, and Australia. We're at Ashford as part

of a “Breeding and Bourbon” tour of Kentucky’s Inner Bluegrass Region. The Inner Bluegrass contains the most fertile soil in the region, and its reputation for high bred horses and smooth spirits is known the world over. Some of Ashford’s most profitable stallions, its super studs, we’re told, will board specially-fitted jets bound for Australia after the breeding season to serve mares there during the Austral spring.

Trained to look for change over time, I couldn’t believe how much breeding thoroughbreds had changed in the last three centuries. Leonard Bartlett established his little stable outside Masham in North Yorkshire, England in the early eighteenth century. Bartlett illustrated the early relationship between class and breeding by appointing his three-stall stable with “paving, plastering and masonry better suited to a mansion than a stable.”<sup>3</sup> He built his luxurious stud for the comfort of his imported horses used to a warmer climate than they found in northern England. Bartlett kept the stallions warm in the stable and led them by hand to each pre-planned tryst. Now there are UV lamps, hormone treatments, and jumbo jets. Yet thoroughbreds must still be bred the old-fashioned way, or to use the Jockey Club’s preferred euphemism, under “live cover.” For most other stock, breeding involves shopping for semen in catalogs then waiting by the mailbox. An artificial insemination procedure seals the deal. There are no teasers, protective suits, or padded cylinders. On more than one occasion I’ve spoken with people who heard that the live cover rule preserved the vigor transmitted to the foal by the sex act. The thoroughbred industry is a contradiction of tradition, mythology, science, and technology.

---

<sup>3</sup> Christopher McGrath, *Mr. Darley’s Arabian: High Life, Low Life, Sporting Life, A History of Racing in 25 Horses* (New York: Pegasus Books, 2017), 38.

Despite all the changes within the breeding shed, the category of thoroughbred has remained more or less constant since the origin of the breed in the 1700s. From the beginning, thoroughbred breeders have plied in storytelling. In fact, stories distinguish thoroughbreds from all desother horses. No matter the breed, horses all belong to a single species, *Equus caballus*. By breeding horses, people quite literally reproduced these stories about the past. Thoroughbreds embody a vision of the way things ought to be, a vision of the world. The story is simple but compelling. It connects the present to the past, but its version of the past is sanitized, glossing over its contested meanings and violence. Genealogy is a narrative that flatters, but history is not so simple, perfect, or noble.

The story goes that all thoroughbreds, unless bred fraudulently, descended from three foundation sires taken to Great Britain from the Levant, the Maghreb, or Arabia in the seventeenth and eighteenth centuries: the Byerly Turk, the Godolphin Afrrabian, and the Darley Arabian. Each of their names comes from the convention of referring to a horse by a man's name (its owner) and its presumed breed or point of origin. Today more than ninety per cent of Thoroughbred racehorses trace their genealogies to Darley's stallion, stolen from the desert three centuries ago.<sup>4</sup> Over thirty generations Darley's genes have guided the development the thoroughbred breed. (Although the actual percentage of Darley DNA in any living thoroughbred is miniscule.)<sup>5</sup>

The stories people tell about thoroughbreds give us an opportunity to think about inheritance. What, for instance, is inherited alongside genes? The language of inheritance is

---

<sup>4</sup> Rebecca Cassidy, "Turf Wars: Arab Dimensions to British Racehorse Breeding," *Anthropology Today* 19, no. 3 (June 2003), 15.

<sup>5</sup> A typical horse generation is estimated to be about ten years, making contemporary racers the thirty-first generation since Darley. As a yard stick, an individual shares 0.78 per cent of its DNA with an ancestor seven generations in the past.

lacking. It conflates the biological, the inevitable, with the social. Thoroughbreds inherit speed, affect, and conformation, but they also inherit the prestige of pedigree and a labor regime that helps reproduce the thoroughbred category—just as a human inherits things like blue eyes and Catholicism. Inheritance is a social process as well as a biological one.

Humans tell stories to make sense of the things carried on from the past. These stories of inheritance, what we mean when we say something is inherited, include both the social and the biological. These are powerful stories precisely because they make the social, the messy, contingent, and constructed past, seem natural.

In “A Place for Stories,” William Cronon challenged environmental historians to write stories about the stories people tell about nature.<sup>6</sup> The thoroughbred is an animal that humans have been narrating for three hundred years. The stories we tell about animals have consequences for people and for places. In the world created by thoroughbreds, the past is a vector. People narrate the past to predict the future. These plans don’t always work out, but the belief in the predictive power of the past remains dominant in horse racing circles. Stories about thoroughbreds also drive decisions about land use and political economy, science and economics.<sup>7</sup>

---

<sup>6</sup> William Cronon, “A Place for Stories: Nature, History, and Narrative” *Journal of American History* 78, no. 4 (March 1992).

<sup>7</sup> In the *Extended Phenotype*, evolutionary biologist Richard Dawkins argues that a species’ genes affects more than just an individual’s body, but rather that when we think about gene transmission we should consider the whole constellation of factors, both internal and external, that contribute to that gene’s success. I build on Dawkins’s theory by including labor processes, landscapes, and stories into my analysis of inheritance. See Richard Dawkins, *The Extended Phenotype: The Long Reach of the Gene* (New York: Oxford University Press, 1999).

Insofar as scholars have written about thoroughbred horses, they have really glommed onto their hybrid origins. Recent DNA analyses have confirmed the most basic of thoroughbred tales: that the breed originated with horses from Arabia, the Maghreb, and the Levant. Donna Landry argues that the development of the thoroughbred as a breed in the British Isles during the eighteenth century accompanied an emerging sense of Britishness distinct from the Continent. New horses, and a new riding seat, contributed to a cultural transformation on Great Britain. Aristocrats sped over the countryside in pursuit of foxes or challenged each other's steeds in grueling match races. Landry continues: "This is another way of saying that equestrian culture and its offshoots, the sporting culture of hunting and racing, and the artistic culture of equine portraiture and sporting art, served expressed Britain's 'gentlemanly capitalist' version of mercantilism during the nation's rise to global economic importance between the late sixteenth century and the mid-nineteenth century."<sup>8</sup> Hybridity served to express uniqueness, and we need to think about hybridity both as a biological reality and a cultural metaphor.

Thoroughbred horses took on meaning beyond their biology. The relationship between thoroughbreds and their owners is well-trod terrain for scholars. Anthropologist Rebecca Cassidy completed ethnographic studies of the racing industry in Newmarket in the United Kingdom and Lexington, Kentucky. By mucking stables and sitting with members of the Jockey Club, Cassidy exposes the spheres of power and wealth in the British thoroughbred world. Another round of fieldwork in the United States showed Cassidy that the horsey set in the United States sings the same song, just in a different key. Horse breeders

---

<sup>8</sup> Donna Landry, *Noble Brutes: How Eastern Horses Transformed English Culture* (Baltimore: Johns Hopkins University Press, 2008), 3.

in Lexington pride themselves on being democratic and unpretentious in comparison to their English brethren. Cassidy's analysis suggests that the thoroughbred world in both Newmarket and Lexington is obsessed with "breeding" both in terms of horses and blue-blooded aristocrats. Cassidy shows how breeding and racing thoroughbreds in Lexington and Newmarket projects certain visions of what is natural in terms of race, class, and gender.<sup>9</sup> This narrative of naturalness becomes more powerful when modeled in terms of biological inheritance.

Class has always been an organizing principle in thoroughbred racing. Carole Case examines the formation of the American Jockey Club in the final decade of the nineteenth century. Members of the Jockey Club believed, according to Case that "the worth of human beings—and also of horses lies in the bloodline." Case argues that racing horses offered Gilded Age robber barons legitimacy.<sup>10</sup> Wray Vamplew argues that the keystone of racing in the UK was gambling, and that the working-class bets while the upper class owns and runs.<sup>11</sup> Mike Huggins links the rise of thoroughbred racing to the growth of the leisure industry in the eighteenth century. Access to wealth for the middle class expanded leisure activities, and, as a result, racing became professionalized.<sup>12</sup> The influence of the middle class, and middle-class gambling in particular, on horse racing suggests that Victorian notions of respectability

---

<sup>9</sup> Rebecca Cassidy, *The Sport of Kings: Kinship, Class, and Thoroughbred Breeding in Newmarket* (Cambridge, UK: Cambridge University Press, 2002); Rebecca Cassidy, *Horse People: Thoroughbred Culture in Lexington and Newmarket* (Baltimore: Johns Hopkins University Press, 2007).

<sup>10</sup> Carole Case, *The Right Blood: America's Aristocrats in Thoroughbred Racing* (New Brunswick, NJ: Rutgers University Press, 2001).

<sup>11</sup> Wray Vamplew, *The Turf: A Social and Economic History of Horse Racing* (New York: Viking, 1976).

<sup>12</sup> Mike Huggins, *Horse Racing and British Society in the Long Eighteenth Century* (London: Boydell and Brewer, 2018).

were more fluid than one might suspect during the long nineteenth century.<sup>13</sup> One of the ways that historians have interpreted horse racing is as representative of the professionalization of sport in the United Kingdom. With a dedicated sporting press and the Jockey Club formally enacting and enforcing rules, horse racing was bureaucratic and professional by the beginning of the nineteenth century. The idea of amateurism in British sport, especially in horse racing, was a myth created by journalists.<sup>14</sup>

These themes are repeated—people continue telling stories about thoroughbreds—in what I call the hobbyist school of thoroughbred historiography. There’s an entire cottage industry of journalists, memoirists, and amateur historians who write voluminously about thoroughbreds. Motivated by an antiquarian impulse, these writers sought to preserve the early history of horse racing in the United States.<sup>15</sup> In the twentieth century, the American Jockey Club commissioned turf journalists to construct a laudatory history of horse racing in America. John Hervey and W.S. Vosburgh craft a narrative of the sport in the United States. The British brought racing to British North America in the colonial period, and

---

<sup>13</sup> Michael Huggins, *Flat Racing and British Society, 1790-1914: A Social and Economic History* (Portland, OR: Frank Cass, 2000).

<sup>14</sup> Wray Vamplew, *Pay Up and Play the Game: Professional Sport in Britain, 1875-1914* (New York: Cambridge University Press, 1988).

<sup>15</sup> Fairfax Harrison has earned the reputation of dean of this school, which often focus on the sport in the southern colonies. Harrison, whose father was Confederate Secretary to Jefferson Davis, worked as a lawyer for the Southern Railway Company working his way up to vice-president of finance. He wrote voluminously and could be considered the Ulrich Philips of American thoroughbreds. His books contain important information on horses imported to or bred in the United States in the colonial period and the early republic. See, for example, Fairfax Harrison, *The Belair Stud, 1747-1761* (Richmond, VA: Old Dominion Press, 1929); Fairfax Harrison, *Early American Turf-Stock, 1730-1830* (Richmond, VA: Old Dominion Press, 1934); Fairfax Harrison, *The Background of the American Stud Book* (Richmond, VA: Old Dominion Press, 1933); Fairfax Harrison, *The John’s Island Stud (South Carolina), 1750-1788* (Richmond, VA: Old Dominion Press, 1931); Fairfax Harrison, *The Roanoke Stud, 1795-1833* (Richmond, VA: Old Dominion Press, 1930); Fairfax Harrison, *The Equine F.F.V.s: A Study of the Evidence for the English Horses Imported into Virginia before the Revolution* (Richmond, VA: Old Dominion Press, 1928).

thoroughbreds followed the sport across the Atlantic. Hervey and Vosburgh follow the vicissitudes of the sport through American political history paying ample attention to the fate of flat racing during wars and anti-gambling crusades.<sup>16</sup> Some columnists, bloodstock advisors, and breeders focus more on the horses themselves and the strategies used by successful breeders.<sup>17</sup> I rely heavily on this literature in constructing my narrative, but, ultimately, this is not a history of horse racing *per se*.

Historians are less interested in the practicalities of breeding better racehorses than in the process of breeding itself. While the first generation of thoroughbred breeders congratulated themselves for qualitatively changing breeding, historian Nicholas Russell contends that they overstate their claims. Sixteenth- and seventeenth-century racers resembled their more famous eighteenth-century descendants than the latter breeders acknowledged. Adjunct to Russell's main argument is the claim that the technology of pedigrees may not have performed the critical work eighteenth-century breeders thought it did. Without being able to distinguish between phenotype and genotype, the only work a pedigree can do is to provide legitimacy to a political regime determined by hereditary succession.<sup>18</sup> None of this is to suggest that animal breeders in the eighteenth century, or earlier, were useless rubes. Contemporary breeding, Margaret Derry argues is a "fusion of

---

<sup>16</sup> John Hervey, *Racing in America, 1665-1885, vol. 1* (New York: Jockey Club, 1944); John Hervey, *Racing in America, 1665-1885, vol. 2* (New York: Jockey Club, 1944); W.S. Vosburgh, *Racing in America, 1866-1921* (New York: Jockey Club, 1922).

<sup>17</sup> See Alexander Mackay-Smith, *Speed and the Thoroughbred: The Complete History* (New York: Derrydale Press, 2000); Peter Willett, *The Thoroughbred* (New York: Putnam, 1970); Peter Willett, *Makers of the Modern Thoroughbred* (Lexington, KY: University Press of Kentucky, 1986); Peter Willett, *An Introduction to the Thoroughbred* (London: S. Paul, 1966); Peter Willett, *The Classic Racehorse* (Lexington, KY: University Press of Kentucky, 1982).

<sup>18</sup> Nicholas Russell, *Like Engend'ring Like: Heredity and Animal Breeding in Early Modern England* (New York: Cambridge University Press, 1986).

aspects of science with traditional practice.” Livestock breeding has always been a site where scientific theories interacted with tacit knowledge. Technological capabilities determined the course of animal breeding by shaping how animals were bred. This persists until today. At the livestock pavilion of any county fair, you will see animals whose breeding relies on livestock genetics, hundreds of years-old selection practices, or some combination of the two.<sup>19</sup> The breeders’ fascination with purity has motivated historians for decades. Pedigrees and other technologies of pure breeding helped construct pure-bred as a commercial category, allowing for the marketability of exclusive animals.<sup>20</sup> Harriet Ritvo finds that breeding animals celebrated and reinforced human power, both dominion over animals and over other people, and domination.<sup>21</sup> More recently, Tiago Saraiva examined the role of animal breeding in twentieth-century fascist Europe. He concludes that animals and grains bred in Germany, Italy, and Portugal helped political leaders not only to achieve autarky and celebrate folkishness, but also to create “alternative fascist modernities” in the process.<sup>22</sup>

Livestock breeding provides an opportunity for historians to interrogate the relationship between nature and culture. As Jenny Davidson writes, early modern breeding “set a place for culture at nature’s table.”<sup>23</sup> For decades, environmental historians have

---

<sup>19</sup> Margaret Derry, *Masterminding Nature: The Breeding of Animals, 1750-2010* (Toronto: University of Toronto Press, 2015), 3.

<sup>20</sup> Margaret Derry, *Bred for Perfection: Shorthorn Cattle, Collies, and Arabian Horse since 1800* (Baltimore: Johns Hopkins University Press, 2003).

<sup>21</sup> Harriet Ritvo, *The Animal Estate: The English and Other Creatures in the Victorian Age* (Cambridge, MA: Harvard University Press, 1987).

<sup>22</sup> Tiago Saraiva, *Fascist Pigs: Technoscientific Organisms and the History of Fascism* (Cambridge, MA: MIT Press, 2016).

<sup>23</sup> Jenny Davidson, *Breeding: A Partial History of the Eighteenth Century* (New York: Columbia University Press, 2008), 1.

recognized the role the material environment played in history. The way people interact with that environment has been fundamental to the stories environmental historians tell.

Environmental historians have been adept at reconstructing historical landscapes, determining how people have used nature, and tracing how people think about the environment.<sup>24</sup> The eighteenth-century breeders experimenting with artificial selection reckoned with a real, observable, and material nature, but also used nature to probe their dreams and visions of a better future.

The category of thoroughbred regulated these dreams and visions. A thoroughbred is any horse that can trace its ancestry through animals recorded in one of the sanctioned stud books. Categories have the power not only to order the world but also to make that order appear natural. They're creation, from the minds of humans to serve humans, included political and ethical decisions about inclusion and exclusion.<sup>25</sup> Historians of science have interrogated the social, cultural, and political milieu surrounding the naming, and the practical creation, of species.<sup>26</sup> When species definitions bump up against the intransigence of nature, which often defies easy categorization, and the precision of law, which requires it,

---

<sup>24</sup> For a discussion of the three nodes of thinking within environmental history, see Mart A. Stewart, "Environmental History: Profile of a Developing Field," *The History Teacher* 31, no. 3 (May 1998). Classics in material environmental history include William Cronon, *Changes in the Land: Indians, Colonists, and the Ecology of New England* (New York: Hill and Wang, 1983); Brian Donahue, *The Great Meadow: Farmers and the Land in Colonial Concord* (New Haven: Yale University Press, 2003); Mark Fiege, *Irrigated Eden: The Making of an Agricultural Landscape in the American West* (Seattle: University of Washington Press, 1999); Arthur F. McEvoy, *The Fisherman's Problem: Ecology and Law in California Fisheries, 1850-1980* (Cambridge, UK: Cambridge University Press, 1986).

<sup>25</sup> Obviously couching these decisions in the politically neutral language of science (itself a political project) helps make categories appear even more natural. See, Geoffrey C. Bowker and Susan Leigh Star, *Sorting Things Out: Classification and Its Consequences* (Cambridge, MA: MIT Press, 1999).

<sup>26</sup> For a discussion of Linnaean classification, see Chapter One, "Collecting, Classifying, and Interpreting Nature: Linnaeus and Buffon, 1735-1788" in Paul Lawrence Farber, *Finding Order in Nature: The Naturalist Tradition from Linnaeus to E.O. Wilson* (Baltimore: Johns Hopkins University Press, 2000). For a discussion of the fallibility of classification, see Lisbet Koerner, *Linnaeus: Nature and Nation* (Cambridge, MA: Harvard University Press, 1999).

the we can begin to pull at the knot of these artificial categories.<sup>27</sup> Keeping the category of thoroughbred stable over more than two centuries required significant maintenance, professionalization and bureaucratization.<sup>28</sup> Since the category of thoroughbred hardly changed—although the animals did; few if any of today’s thoroughbreds could endure the grueling four-mile heat races common in the eighteenth and nineteenth centuries—thoroughbred breeders and owners consequently worked to create a vision of the world that fit into their preexisting categories.<sup>29</sup> This project examines how thoroughbred owners used the explanatory power of their breed to create landscapes and social processes that reproduced not only their preferred breed, but also the stories they wanted to tell about it and the political economic regimes that propped up racial and class inequality.

At Ashford, this project came into sharper focus. Rhys Isaac turned my attention to thoroughbreds when, in *The Transformation of Virginia*, he observed that discussions about horses and horse racing probably made a louder contribution than politics to the din in Williamsburg’s eighteenth-century coffee houses.<sup>30</sup> If that’s true, what are the politics of

---

<sup>27</sup> Peter Alagona, “Species Complex: Classification and Conservation in American Environmental History,” *Isis* 107, no. 4 (December 2016).

<sup>28</sup> For an example of this in the world of greyhound racing, an analogous pursuit, see Edmund Russell, *Greyhound Nation: A Coevolutionary History of England, 1200-1900* (New York: Cambridge University Press, 2018). For a discussion of maintenance, see Andrew L. Russell and Lee Vinsel, “The Dynamic Interplay between Standards and Routines: Lessons from Industry and Government” in Daniel M.G. Raff and Philip Scranton, eds., *The Emergence of Routines: Entrepreneurship, Organization, and Business History* (New York: Oxford University Press, 2017).

<sup>29</sup> For discussion of the labor regimes associated with the thoroughbred industry, see Carole Case, *Down the Backstretch: Racing and the American Dream* (Philadelphia: Temple University Press, 1991); Katherine C. Mooney, *Race Horse Men: How Slavery and Freedom Were Made at the Racetrack* (Cambridge, MA: Harvard University Press, 2014).

<sup>30</sup> Rhys Isaac, *The Transformation of Virginia, 1740-1790* (New York: W.W. Norton & Company, 1982), 100.

thoroughbred horses? What can an animal – often introduced by humans – tell us about the history of a place? How can we use horses to write about the history of empire and commercial expansion? Thoroughbreds are animals defined by modernity. They gesture toward a history of appropriation and empire, economic hegemony and the annihilation of regional difference, and emerging national identities. They rely on systems of standards and professionalization, and through thoroughbreds we can analyze an ideology of scientific universalism.

I tried not to feel immodest as I craned my neck to peek into the breeding shed. The teaser had done his job, and a handler led the breeding stallion in. After a moment's hesitation (maybe it was flirting?) the stallion mounted the mare, thrust a handful of times, and let out an ecstatic roar. After the veterinarian examined the animals, a groom led the mare to her pasture. Another groom walked the stallion to his stall in the stud barn, and a small man with a ball cap accompanied the teaser stallion wherever they go after their ignominious work is done. That was it, ten seconds and \$40,000 worth of sex. Yet it's the origin of this world of stud farms and Derby hats, mint juleps and dreams of success, calculated breeding and unbridled affect.

The year I saw my first mating at Ashford stud, this process was repeated over 100,000 times in 72 different countries, from Argentina to Zimbabwe. The International Federation of Horseracing Authorities, essentially the U.N. of horseracing, registered 92,765 thoroughbred foals in 2015. Six nations, Argentina, Australia, France, Great Britain, Ireland, and the United States account for nearly two-thirds of the world's 242,875 thoroughbreds.<sup>31</sup>

---

<sup>31</sup> International Federation of Horseracing Authorities, *Annual Report, 2015* (International Federation of Horseracing Authorities, 2015), 36.

On the map, Ashford lies between Lexington and Frankfort on US-60, but locals call it the Frankfort Road. Ashford is but one of the dozens of breeding farms that line the Frankfort Road. To a refugee from drought-stricken Southern California, the landscape seems aggressively green. Once used for hemp, the land sprouts horses now. Groups of mares and yearlings make meals of the verdure and contribute to what must be the Platonic ideal of a pastoral landscape. The land and the horses here cost millions. Pastures extend out in all directions; the peaks and valleys of undulating hills give the fields a texture that tricks the viewer into believing the landscape goes on forever. Surely this place belongs alongside the austerity of Zion and the greasiness of a Hoboken alley in Edward Abbey's list of the most beautiful places on earth.<sup>32</sup> At Ashford maintaining this aesthetic approaches a compulsion. The fences—there are miles upon miles of them encircling the beautiful bluegrass pastures—all appear brand new and freshly painted. The buildings here are made of stone and have slate rooves. If they were only closer together, the place would seem like a wealthy liberal arts college, a four-legged Swarthmore. The stallion barn, the centerpiece of Coolmore's business empire, is impeccably clean and accented with dark-stained hardwood. Brass plaques line the barn identifying the occupant of each stall like mailboxes in a luxury apartment building.

From a handful of exotic stallions brought to England and a few dozen mares living mostly in North Yorkshire, thoroughbreds multiplied and fanned out around the globe. Everywhere horses race—the biggest races are in the United States, the United Kingdom, Ireland, Argentina, Australia, Japan, and Dubai—thoroughbreds run. The story begins in the eighteenth century when factors for the Levant Company, a British trading monopoly in the

---

<sup>32</sup> Edward Abbey, *Desert Solitaire: A Season in the Wilderness* (New York: Ballantine Books, 1971), 1.

Ottoman Empire (like the East Indian Company, only lesser known) sent Arabian horses to England. Levant Company factors, often aristocrats themselves, learned from Bedouin horse breeders in the desert the importance of animal pedigrees.<sup>33</sup>

Over the next half century or so, breeding thoroughbreds in England carried the support of the restored royal family. Newmarket, a city in Suffolk about 65 miles north of London, was the center of horseracing's universe. Many American colonists from the Tidewater region of Virginia sent their sons to Cambridge for a university education. Those sons, to the chagrin of their dons, frequented the races at nearby Newmarket with undergraduate ardor. When they returned to Virginia after their studies, they brought along some horses to begin breeding and racing in the New World. According to horseracing lore, which resembles the works of Herodotus in that fact and fantasy become inseparable components of a lived history, thoroughbreds came to North America in 1730 with the debarkation of Bulle Rock in Virginia. Population pressure, primogeniture, and soil depletion pushed members of the Tidewater gentry westward across the Alleghenies.<sup>34</sup> Originally part of Virginia, Kentucky entered the Union in 1792 as the country's fifteenth state and its first west of the Appalachians. Horseracing became a national sensation in the United States, and people took intense regional pride in their horses. Match races between famous horses pitted North against South in the Antebellum years. Thousands of spectators crammed into

---

<sup>33</sup> Landry, *Noble Brutes*, 76-77.

<sup>34</sup> Stephen Aron, *How the West Was Lost: The Transformation of Kentucky from Daniel Boone to Henry Clay* (Baltimore: Johns Hopkins University Press, 1999); Edmund S. Morgan, *American Slavery, American Freedom* (New York: W.W. Norton & Company, 1975); Isaac, *Transformation of Virginia*; Eugene Genovese, *Roll, Jordan, Roll: The World the Slaves Made* (New York: Vintage Books, 1972).

racecourses to see these duels.<sup>35</sup> By the 1840s, Kentucky's Bluegrass Region emerged as America's thoroughbred region *par excellence*, its fast horses and fine bloodstock winning the region international renown.

America's Civil War, however, crippled the South, and although Kentucky did not secede, the Bluegrass Region suffered during the War with both armies expropriating horses for battle. After the Civil War, Union sympathizer and Kentuckian, Colonel Sanders Bruce moved to New York to publish a racing newspaper called *Turf, Field and Farm*. His paper evolved into the *American Stud Book*, a compilation that gave the name and lineage of every thoroughbred running on American tracks. The publication of the stud book overlapped with an increased interest in raising and racing thoroughbreds among the urban elite.<sup>36</sup> Buoyed by the interest of financiers and industrialists, thoroughbred racing moved northward and eastward, although Kentucky's Bluegrass remained the preferred region for rearing and breeding horses. Industrial and financial magnates oversaw their Kentucky studs from their Manhattan townhouses.

Nowhere in the United States was it possible to make money faster than in California, prompting robber barons like Leland Stanford and George Hearst to get into the horse game (although many Californians, like Stanford, preferred the more modern harness racing associated with Standardbred horses). California parvenus spent fortunes to turn California's Mediterranean landscape into something resembling the natural condition of Kentucky. They

---

<sup>35</sup> Nancy Struna, "The Formalizing of Sport and the Formation of an Elite: The Chesapeake Gentry, 1650-1720s," *Journal of Sport History* 13 (Winter 1986); Nancy Struna, "The North-South Races: American Thoroughbred Racing in Transition, 1823-1850," *Journal of Sport History* 8, no. 2 (Summer 1981); T.H. Breen, "Horses and Gentlemen: The Cultural Significance of Gambling among the Gentry of Virginia," *William and Mary Quarterly* 34, no. 2 (April 1977).

<sup>36</sup> Sven Beckert, *The Monied Metropolis: New York City and the Consolidation of the American Bourgeoisie, 1850-1896* (New York: Cambridge University Press, 2003).

conditioned the soil with lime and fertilizer and crisscrossed the state with irrigation projects. Breed standards and their enforcement by the American Jockey Club allowed owners to confidently raise thoroughbreds in far-flung regions of the country, but as California breeders amassed their blood stock reserves, a different group of people took an interest in race horses: scientists. Working at the newly established laboratory at Cold Spring Harbor, Harry H. Laughlin, the superintendent of the Carnegie-funded Eugenics Record Office, pored over pedigree charts to produce a mathematical formula to study inheritance. With their comprehensive pedigree records, thoroughbreds, Laughlin believed, carried within them the secrets to genetic inheritance leading to the creation of the thoroughbred as a model organism for heredity studies.

Over the last three centuries, thoroughbreds went from being provincial English horses to a global equine elite. People who bred, raised, worked with, and bet on these horses invested meaning in these animals.<sup>37</sup> For some it was ambition, for others it was self-portraiture, a paycheck, or even friendship. New social contexts and new places created the opportunity for new relationships between humans and horses.<sup>38</sup> Although we can't yet know what goes on between the pointy, but proportional, ears of thoroughbred horses, anyone who's laid a bet on a sure-thing favorite only to watch her trot past the wire well behind the

---

<sup>37</sup> I take inspiration from practitioners of science and technology studies who, following the lead of Bruno Latour, have examined the construction of objects including social networks, sea scallops, and disease. See, for example, Michel Callon, "Some Elements of a Sociology of Translation: Domestication of the Scallops and the Fishermen of St Brieuc Bay," in John Law, ed., *Power, Action and Belief: A New Sociology of Knowledge* (London: Routledge & Kegan Paul, 1986); Bruno Latour, *The Pasteurization of France*, trans. Alan Sheridan and John Law (Cambridge, MA: Harvard University Press, 1993); Marianne de Laet and Annemarie Mol, "The Zimbabwe Bush Pump: Mechanics of a Fluid Technology," *Social Studies of Science* 30, no. 2 (April 2000): 225-63.

<sup>38</sup> Warwick Anderson, "The Possession of Kuru: Medical Science and Biocolonial Exchange," *Comparative Studies in Society and History* 42, no. 4 (October 2000): 713-44.

pack knows horses often live by rules they pen themselves.<sup>39</sup> Lorraine Daston and Gregg Mitman explore this idea, writing that animals “are symbols with a life of their own. We use them to perform our thoughts, feelings and fantasies because, alone of all our myriad symbols, they can perform; they can do what is to be done. We may orchestrate their performance, but complete mastery is illusion.”<sup>40</sup>

People made meaning with thoroughbreds (and their Eastern predecessors) as material objects, symbolic animals, and abstract information. Thoroughbreds are imposing animals averaging 17 hands (68 inches) at the withers (the ridge between the shoulder blades) and weighing 1,000 pounds. Moving them, whether in eighteenth-century ships or twenty-first-century jumbo jets, is a miracle of logistics. Like natural real estate developers, they bulldoze landscapes, digesting grasses and compressing soils to turn landscapes into places that suit them.<sup>41</sup> By necessity, people who dealt in thoroughbreds reckoned with a beast that took up space and ate and shat and fucked. In addition to being material, thoroughbreds have been discursive animals.

While watching horses run, mucking their stables, or managing their breeding, people turned horses into symbols. In people’s imaginaries, horses became totems of the ruling class, national icons, or wishes to escape the drudgery of working class life. I should note here, that since I deal with the symbolic meaning attached to thoroughbreds, I am interested

---

<sup>39</sup> For a philosophical discussion of the unknowable nature of animal consciousness see Thomas Nagel, “What Is It Like to Be a Bat?” *The Philosophical Review* 83, no. 4 (1974): 435-50.

<sup>40</sup> Lorraine Daston and Gregg Mitman, “The How and Why of Thinking With Animals” in Lorraine Daston and Gregg Mitman, eds., *Thinking with Animals: New Perspectives on Anthropomorphism* (New York: Columbia University Press, 2005), 13.

<sup>41</sup> Virginia DeJohn Anderson, *Creatures of Empire: How Domestic Animals Transformed Early America* (New York: Oxford University Press, 2006).

in the stories humans tell about horses. The meanings of these stories, I argue, are important to parse regardless of their truthfulness. Thinking with horses also abstracted them. Horses became entries on farm ledgers, indistinguishable from other commodities like corn, wheat, and slaves. Humans turned their equine companions into abstractions that they could buy and sell and move anywhere in the world. This degree of abstraction allowed people to treat thoroughbreds as data. Breeders used models to try to predict foal outcomes while bettors used past performances as a crystal ball holding clues to race outcomes. It was only through conceiving thoroughbreds as data, that Harry Laughlin could purport to develop his mathematical model of inheritance.

In the chapters that follow I tell the story—and stories—of the Darley Arabian and his descendants. Each chapter moves down the Darley’s family tree to a new place and period, always linking to a horse that can reach back in direct tail-male lineage to the Darley. The first chapter borrows heavily from the work of Donna Landry and Gerald Maclean who argue that eastern horses represented for the British a degree of imperial envy. Bringing the Darley Arabian to Great Britain heralded an era of English expansion. For Landry, this move begins a redefinition of English, then British, culture.<sup>42</sup> The Darley Arabian’s offspring in Britain served as exemplars of both heredity and pedigree. In the second chapter, I show how, for a population recovering from civil war, thoroughbred horses implied the rightness of succession. Excitement for horseracing and thoroughbred horses exceeded the bounds of the British Isles and status-seeking colonists in Virginia imported horses to America. In chapter three, I study how Kentucky’s Bluegrass Region became a thoroughbred landscape. There

---

<sup>42</sup> Gerald M. MacLean, *The Rise of Oriental Travel: English Visitors to the Ottoman Empire, 1580-1720* (London: Palgrave Macmillan, 2004); Gerald M. MacLean and Nabil Matar, *Britain and the Islamic World, 1558-1713* (New York: Oxford University Press, 2011); Landry, *Noble Brutes*.

Darley's sons helped transform the landscape of Kentucky into a parkland of private estates and slavery that owed as much to the biology of equine digestion as human avarice. The Civil War devastated Kentucky's breeding operations, but an influx of capital from industrialists following the Civil War moved American horse racing's center of gravity and recast the sport as a bourgeois rather than aristocratic pastime. Chapter five argues that the publication of the *American Stud Book* made thoroughbreds abstract and standardized. New York became the financial center of the thoroughbred industry in the United States. Extreme wealth and the chemical revolution further annihilated the difference of place. In the sixth chapter, I argue that Californians used techno-scientific intervention to render their arid landscape like Kentucky's Bluegrass Region. The seventh chapter travels back to New York, this time to Long Island, where Harry H. Laughlin combined the symbolism and abstraction of thoroughbreds to establish thoroughbreds as an experimental population to argue for his eugenic policies. Breeding thoroughbreds had always carried with it the connotations and associations of an upper-class ideology. This chapter argues that eugenicists found support for their claims by forgetting the centuries of selective breeding that led to the thoroughbred of the 1920s. The final chapter examines the markets created by thoroughbred bloodstock and the breeding industry's belief in predictability and progress.

This narrative necessarily jumps around in space and time.<sup>43</sup> The story is incomplete, but it's my hope that taken together these eight vignettes tell a story larger than themselves. In choosing the stories to write about, I wanted to call attention, also, to the stories I don't tell. My argument hinges as much on the interstices between chapters as the chapters

---

<sup>43</sup> I draw inspiration for this narration from James C. McCann, *Maize and Grace: Africa's Encounter with a New World Crop, 1500-2000* (Cambridge, MA: Harvard University Press, 2007).

themselves. Connecting the stories are moments of transit, standardization, and communication. Each chapter tells a self-contained story, focusing on one context, but read together they offer one account of the breed from 1700-2015. In this larger narrative, thoroughbreds become consequential witnesses to the last three hundred years.

Thoroughbreds are freighted with more than the weight of a jockey. They bear the weight of the past through the stories breeders tell about them. The stories—they're really myths—abounding about thoroughbreds justify all sorts of historical processes including labor regimes and land use. Interrogating the stories we tell about certain animals might tell us something about how stories about inheritance turn something like skin tone into an historical phenomenon like race.

## Chapter One: Imperial Envy Outside Aleppo, 1702

To Thomas Darley, the horse must have seemed like a vision in the desert outside Aleppo. A bay colt with a wide white stripe down the middle of his face and three white ankles, “He [was] about 15 hands high of the most esteemed race amongst the arrabs both by Syre and Dam, and the name of said race is called Mannicka.”<sup>1</sup> English traders recorded that eastern horses “seemed to exceed all [they] had yet seen in point of beauty.” The stallions paraded before the buyers outside the black tents of Bedouin encampments had the perfected quality of a picture: “Noble, knightly, heroic,” an English trader wrote, they “seem less a brute than an incarnation of high blood and fiery energy.” Traders found the stillness of a stallion at a horse sale prepossessing. The animal’s rippling muscles and fine points suggested speed, but its calmness showed regal restraint.<sup>2</sup> A desert horse could entrance an English merchant like a mirage in the distance.

What made Arabian horses so alluring to English merchants? Horses weren’t strange to Englishmen. They were among the most common animals on Great Britain. We don’t know exactly why Darley, a thirty-eight-year-old English trader living and working in Aleppo as a factor for the Levant Company, set off for the edge of the Palmyra desert looking for a horse in the spring of 1702, but his being the very model of a modern man of means offers some clues. Racing horses remained popular with England’s upper classes despite the brief suspension under Cromwell’s Protectorate, and the Restoration of the Crown in 1660 brought renewed interest to the turf. Darley’s family, of course, kept horses at their estate in North Yorkshire. Factors in the Levant traded what they had, coarse and drab wool, for

---

<sup>1</sup> Thomas Darley to Henry Darley Dec 1703 quoted in McGrath, *Mr. Darley’s Arabian*, 14.

<sup>2</sup> “Horse-Dealing in Syria, 1854” *Blackwood’s Edinburgh Magazine*, September 1859, 268-69.

things unobtainable in England: spices, drugs, silks, and pedigreed horses. Pedigree was the double-entry bookkeeping of livestock management. It brought horses into the documentary record and gave them a history. Pedigree distinguished between horses, serving to authenticate and differentiate them from the masses of equines. Both Bedouin traders and English factors used pedigrees to create narratives for their horses; pedigrees made fantasy plausible, made Arabians the demigods of the equine world.

Arabian horses existed in the British Isles for some time. Scientists tell us that the “native” English mares who made their anonymous contributions as thoroughbred matriarchs had an admixture of genes from many breeds including Arabians, Turkomans, and Irish hobby horses.<sup>3</sup> Romans raced Arabians in Britannia as early as 210 AD. Emperor Severus Alexander provided funds for training and cold-weather stables at Netherby near Harrogate. Over a millennium and a half, those ancient racers must have been interbred and left some of their genes in the British horse population. As Nicholas Russell points out, the keeping of pedigrees changed breeding very little, serving mostly political ends.<sup>4</sup> To be facile, the horses weren’t new, the story of pure breeding was. English factors in the Levant found a storytelling technology, a powerful trope, and a claim to the past. Pedigrees gave Arabian horses enough historicity to make the claims English importers made about them seem almost credible. They signaled the success of both individuals and the Empire by laying claim to a history that began in the mists of time; they gave modern claims to ancient stories. English merchants could place the horses they traded for in the Levant at the tail end of

---

<sup>3</sup> M.A. Bower, et al., “The Cosmopolitan Maternal Heritage of the Thoroughbred Racehorse Breed Shows a Significant Contribution from British and Irish Native Mares,” *Biology Letters*, 7 no. 2 (2011), 319.

<sup>4</sup> See Nicholas Russell, *Like Engend’ring Like*, especially chapters four and five, “The horse: breeding for war, sport and fashion,” and “Horse breeding in the eighteenth century: blood, speed and carriages.”

historical processes that began in antiquity. Pedigrees allowed English breeders to reckon with inheritance.

What is an Arabian horse? No exact or scientific definition for a breed exists; it is a term of art.<sup>5</sup> Members of a breed look the same, act the same, or exhibit some other characteristic that sets them apart from others of their species. When bred to members of the same breed, they will “breed true” or pass on certain predictable traits to their offspring. Over thousands of years of selective breeding in the deserts of the Middle East, Arabian horses developed a “type.” Today, according to contemporary breed standards, five key elements define the Arabian type: head, neck, back, croup (or rump), and tail. The breed standard requires that an Arabian possess a “comparatively small head” with a profile that is straight or “slightly concave below the eyes” and a small muzzle. Eyes should be “large, round, expressive, [and] dark” and set far apart. Arabians have long, arched necks and short backs. The croup should be “comparatively horizontal” ending at a tail carried high and straight. Arabians range in height from 14.1 to 15.1 hands (a unit of measurement standardized to four inches). Arabian horses have either bay, chestnut, grey, or black coats.<sup>6</sup> Archaeological evidence points to horses resembling Arabians as early as 4,500 years ago, but like all genealogies, theirs is a useful blend of lore, wishful thinking, and selective breeding.

Historians and horse lovers have pored over paintings, pedigrees, and ship manifests to retrace the steps of these Eastern horses. Beginning in the late seventeenth century English

---

<sup>5</sup> Jay L. Lush offers the following explanation of breed: “A breed is a group of domestic animals, termed such by common consent of the breeders, ... a term which arose among breeders of livestock, created one might say, for their own use, and no one is warranted in assigning to this word a scientific definition and in calling the breeders wrong when they deviate from the formulated definition. It is their word and the breeders’ common usage is what we must accept as the correct definition.” Jay L. Lush, *The Genetics of Populations* (Ames: Iowa State University Press, 1994).

<sup>6</sup> *USEF Rule Book* quoted in Education/Evaluation Commission and Judges & Stewards Commissioner, *Arabian Conformation* (Aurora, CO: Arabian Horse Association, 2016), 3.

men of means—the kings, nobles and wealthy landowners who could afford to keep half-ton animals that didn't work for their keep—bred their native horses to horses, Arabians, Turkomans, and Barbs, imported from the Orient. Historian Donna Landry argues that the importation of horses from the East “served to imaginatively express Britain’s ‘gentlemanly capitalist’ version of mercantilism during the nation’s rise to global economic importance between the late sixteenth century and the mid-nineteenth century.”<sup>7</sup> Horse owners, Harriet Ritvo argues, “appropriated power...previously attributed to animals” and that relationships between people and their animals exposed unspoken assumptions about society.<sup>8</sup> The technology of pedigree cast Arabian horses as especially powerful animals.

British traders recognized the value of Arabian horses. Humans see horses, science journalist and chronicler of the horse Stephen Budiansky argues, “through the distorting lens of wealth, status, and privilege.” Humans domesticated horses around 6,000 years ago on the steppes of what is now Ukraine. Two millennia later, people regularly raised and trained horses. Some of the earliest surviving horse-training texts from the fifteenth century BC provide insight into training. Ancient managers recorded the number of laps their charges ran in daily ledgers. Payroll lists from eighteenth-century BC Mesopotamia include buyers, trainers, grooms, and stable hands, showing that keeping horses was expensive. British archaeologist Stuart Piggott estimated that the greatest cost of keeping horses might have been feeding them. Feeding a pair of chariot horses in prehistoric Britain, Piggott argued,

---

<sup>7</sup> Landry, *Noble Brutes*, 3.

<sup>8</sup> Ritvo, *The Animal Estate*, 2. For further discussion see Harriet Ritvo, *The Platypus and the Mermaid and Other Figments of the Classifying Imagination* (Cambridge, MA: Harvard University Press, 1997); Donna Haraway, *Primate Visions: Gender, Race, and Nature in the World of Modern Science* (New York: Routledge, 1990); Donna Haraway, *When Species Meet* (Minneapolis: University of Minnesota Press, 2007); Donna Haraway, *The Companion Species Manifesto: Dogs, People, and Significant Otherness* (Chicago: Prickly Paradigm Press, 2003).

required the yearly harvest from ten acres of barley. Beginning with the introduction of the chariot in the twelfth century BC, Chinese horse owners imported and then cultivated a new crop, alfalfa, to their region. Equestrian games strengthened the ties between horses and wealthy patrons. The *Iliad* describes chariot racing in the thirteenth century BC, and four-horse chariot races debuted at the 23<sup>rd</sup> Olympiad in 684 BC.<sup>9</sup>

Ottoman horsemen knew their animals. Donna Landry suggests that Levant Company factors, often “keen genealogists” themselves, learned about equine pedigree keeping from their Eastern trading partners. William Cavendish, 1st Duke of Newcastle, observed that “the Arabs are as Careful, and Diligent, in Keeping the Genealogies of their Horses, as any Princes can be in keeping any of their own Pedigrees.” Every desert horseman could rattle off “the Name, the Surname, the Coat, and Marks” not only of his horses, but also his neighbors.”<sup>10</sup> By the 1650s, when the French diplomat Laurence d’Arvieux travelled through Syria and Lebanon, Bedouins had developed an entire system to ensure the accuracy of their pedigrees. A stallion covered a mare “before Witnesses, who attest it under their hand and Seal before the Emir’s Secretary,” and “Witnesses are likewise call’d when the Mare has Foal’d; and another Certificate is made, where they put down the Sex, the Shape, the Coat, the Marks of the Colt, and the time of its Birth.” Whenever a horse changed hands among the Bedouins, the traders passed along these documents.<sup>11</sup> The coveted Arabians were made as much by paper as flesh and blood.

---

<sup>9</sup> Stephen Budiansky, *The Nature of Horses: Exploring Equine Evolution, Intelligence, and Behavior* (New York: The Free Press, 1997), 71-73.

<sup>10</sup> William Cavendish, *A New Method, and Extraordinary Invention, to Dress Horses* (London: Tho. Millbourn, 1667), 72-73.

<sup>11</sup> Laurent d’Arvieux, *The Travels of the Chevalier d’Arvieux in Arabia the Desert Memoires of Chevalier d’Arvieux*, trans. unknown (London: B. Baker, 1732), 170-71.

Englishmen coveted the stories that connected Arabian horses to a glorious past. Consider this one: before the Fall when gods still walked the earth delighting in their works and speaking florid and archaic English, Allah told the south wind, “I will that a creature should proceed from thee—condense thyself!” Dutifully, the angel Jibril gathered a handful of the matter and handed it to the deity, who formed it into a dark bay or chestnut horse. “I have called thee horse;” Allah spoke, “Though shalt be the lord of all animals. Men shall follow thee wheresoever thou goest. Good for pursuit as for flight, though shalt fly without wings. Upon thy back shall the riches repose, and through thy means shall wealth come.”<sup>12</sup> From archaeological evidence and tradition, we can only assume that the horse Allah formed from the south wind resembled what we would today call an Arabian.

Linking Arabian horses to the Prophet Muhammad, King Solomon, Ishmael, and as we’ve seen, even Allah, the mythologies surrounding the origin of Arabian horses suggest the breed’s cultural cachet. One popular story links the breed’s five strains to the prophet Muhammad’s herd. After traveling through the desert, the Prophet released his horses and let them run toward an oasis. The travel had been hard, and the horses needed water. Before the herd reached the spring, Muhammad called them to return. Only five mares forsook the water and returned to their master. These five mares became the Prophet’s favorites and earned the moniker *Al Khamsa*, or the five. Each of the five mares founded one of the five “strains” of Arabians.<sup>13</sup> In the Hebrew Bible, when the Queen of Sheba visited King Solomon, she traveled in a “very great caravan.” The Queen’s camels carried “120 talents of gold, large

---

<sup>12</sup> E. Daumas, “The Horses of the Sahara,” in George H. Conn, ed., *The Arabian Horse in Fact, Fantasy and Fiction* (New York: A.S. Barnes and Company, Inc., 1959), 50-51.

<sup>13</sup> Rosemary Archer, *The Arabian Horse* (London: J.A. Allen, 1992), 92-93.

quantities of spices, and precious stones” which she gave to Solomon as a gift.<sup>14</sup> The Hebrew Bible does not mention a horse, but Sheba’s visit to Jerusalem developed its own mythology. In one telling, the Queen of Sheba gave Solomon a purebred mare named Safanad, a name meaning “the pure.”<sup>15</sup> Another story links the Arabian horse with Ishmael, Abraham’s son with Hagar. Jibril woke Ishmael with a wind storm. When the wind diminished, the scattered dust collected in the form of a handsome horse.<sup>16</sup> The importance of horses in Arabian life made breeding an indispensable business in the deserts. Bedouins were sometimes so eager to sell to foreigners that Major General G. Tweedie, in 1894, wrote, “[I]n all the world there is no more proper subject for wholesome scepticism than Arab genealogy, both of men and horses.”<sup>17</sup>

The dual fascination with and suspicion of Ottomans grew during the early years of the eighteenth century. The first English translation of *1001 Nights* appeared in 1706. Its web of stories allowed many Europeans for the first time to imagine the Orient. Horses figured in many of Scheherazade’s tales, but I want to focus on just one story to show how the English imagined Eastern horses. In the “Enchanted Horse,” an Indian traveler arrives at the court of a Persian king. The Indian has with him a mechanical horse “looking in every respect exactly like a real one,” except that his horse flies. “I have only to mount him,” the traveler boasted, “and to wish myself in some special place, and no matter how distant it may be, in a very few moments I shall find myself there.” For a demonstration, the king asked the traveler to go to

---

<sup>14</sup> 1 Kings 10: 1-10 NIV.

<sup>15</sup> Peter Upton and Hossein Amirsadeghi, eds., *Arabians* (Lincoln, NE: First Chronicle Books, 2006), 12.

<sup>16</sup> Carl Raswan, *The Raswan Index and Handbook for Arabian Breeders* (Richmond, Va: The William Byrd Press, 1990), 6.

<sup>17</sup> Major General G. Tweedie, “The Arabian Horse,” in George H. Conn, ed., *The Arabian Horse in Fact, Fantasy and Fiction* (New York: A.S. Barnes and Company, Inc., 1959), 293.

the base of a nearby mountain and return to the city with palm fronds from the trees growing there. The traveler and his horse disappeared, returning moments later with the demanded palms. The display impressed the king who asked to buy the mechanical animal, and the mysterious traveler agreed, but only if the king gave up his daughter, the princess, in marriage.<sup>18</sup> The “Enchanted Horse” may have introduced English readers to the Arabian horse. While Arabian horses cannot fly per se, they flew in comparison to the plodding, heavy animals native to England.

The translation would have resonated with emerging patterns in European Enlightenment natural philosophy. In seventeenth- and eighteenth-century Europe, the way people understood animal and human inheritance underwent a rapid transformation based on empiricism and observation.<sup>19</sup> Descartes imagined animals as complex machines, automata, whose body parts a tinkerer could replace with cogs, springs, and the like.<sup>20</sup> Thinkers following Descartes moved away from divine explanations of the natural world, proposing instead a framework built on mechanical philosophy. In 1686, John Ray offered the first biological definitions of species. Concepts like biological progress and the Great Chain of Being privileged humans over other species, but Peter Bowler argues that thinkers like Ray abandoned the chain of being before 1700. Without a linear taxonomy and with ample evidence for species appearing and disappearing, Enlightenment thinkers added an element

---

<sup>18</sup> Andrew Lang, ed. *Arabian Nights* (London: Longmans, Green and Co., 1918), 230-32.

<sup>19</sup> For a discussion of the triumph of experimental knowledge in the seventeenth century, see Steven Shapin and Simon Schaffer, *Leviathan and the Air-Pump: Hobbes, Boyle, and the Experimental Life* (Princeton, NJ: Princeton University Press, 1985).

<sup>20</sup> For a discussion of animals represented in Enlightenment philosophy, art, architecture, and garden design, see Peter Sahlins, *1668: The Year of the Animal in France* (New York: Zone Books, 2017). For a discussion of mechanical automata in the eighteenth century, see Adelheid Voskuhl, *Androids in the Enlightenment: Mechanics, Artisans, and Cultures of the Self* (Chicago: University of Chicago Press, 2013).

of temporal change to nature. For Linnaeus, whose eighteenth-century taxonomy informs the modern binomial scientific notation, species change occurred through hybridization rather than adaptation to new conditions. Inter-specific matings produced well known hybrids like mules, and Linnaeus saw this process of hybridization as a means of filling out the divine plan.<sup>21</sup> Voltaire used the concept of hybridity to argue for polygenesis, the belief in multiple independent creations of humankind. Voltaire relied on the species concept, the permanence of type, for his argument. He noted that black couples had black children in non-African countries.<sup>22</sup> Johann Friedrich Blumenbach, adopted the opposite approach. Blumenbach's observations suggested climate determines the preservation of racial appearance. By comparing the "inhabitants of the cold southern extremity of South America" with the "barbarous inhabitants of the Straits of Magellan," Blumenbach noted similar physiognomies.<sup>23</sup> These disputes underpinned the intellectual milieu in which Arabian horses were brought to England and bred to native mares.

The majority of eastern-bred horses that wound up in England in the seventeenth and eighteenth century came from desert horse deals made by factors of the Levant Company. Formed by royal charter in 1581, the Levant Company enjoyed a trade monopoly with the Ottoman Empire. In exchange for exclusive trading rights in the region, the Levant Company furnished the entire cost of the English diplomatic mission to the Sultan. From 1581 to 1804, the ambassador to Constantinople served as both royal envoy and executive of the Levant

---

<sup>21</sup> Peter J. Bowler, *Evolution: The History of an Idea* (Berkeley: University of California Press, 1989), 52-68.

<sup>22</sup> Voltaire, "Of the Different Races of Men" (1766) in Robert Bernasconi and Tommy L. Lott, eds., *The Idea of Race* (Indianapolis: Hackett Publishing, 2000), 5-6.

<sup>23</sup> Johann Friedrich Blumenbach, "On the Natural Variety of Mankind," in Bernasconi and Lott, *The Idea of Race*, 36.

Company. The company employed factors, who traded independently and worked on commission. After training for three years at the Company headquarters in London, the young men headed to the field for overseas tours lasting at least four years and often exceeding a decade. Once successful, a factor would return to London and bankroll further commercial missions to the Orient.<sup>24</sup> Three thousand miles from home and at least two months by the safest fast route, the factors accepted a clean break from Europe, but rarely if ever pictured themselves emigrating to one of the key trading cities. The young traders set up in “factories,” fortresses designed to guard property and traders—more frat house than foundry—that, as historian Ralph Davis describes, consisted of “[f]our high walls, presenting a blank windowless face to the outside world, surrounded a central courtyard; in one of them there was a high, narrow pair of gateways with cupolas over them.” Factors lived in quarters facing the interior quadrangle. One English trader likened his apartment to “the cells of a convent.”<sup>25</sup> Instead of the Gospels, the Levant Company’s monks lived by the creed of mercantilism. Historian Bruce Masters sees in the Levant Company an encounter between European mercantilism and an Islamic tradition that sought to preserve the “caravan trade” and “justice in the marketplace.” Trading centers like Aleppo became “battlefield[s] where two distinct commercial traditions struggled to control the trade of the Levant.” Ultimately, Masters argues, the Levant entered the fold of global capitalism.<sup>26</sup>

---

<sup>24</sup> Christine Laidlaw, *The British in the Levant: Trade and Perceptions of the Ottoman Empire in the Eighteenth Century* (London: Tauris Academic Studies, 2010), 1, 21-22.

<sup>25</sup> Ralph Davis, *Aleppo and Devonshire Square: English Traders in the Levant in the Eighteenth Century* (London: Macmillan, 1967), 4-6.

<sup>26</sup> Bruce Masters, *The Origins of Western Economic Dominance in the Middle East: Mercantilism and the Islamic Economy in Aleppo, 1600-1750* (New York: New York University Press, 1988), 2-3.

The Levant Company had factories in three major Ottoman cities: Aleppo, Stamboul (Istanbul), and Smyrna. Additionally, the Company operated a factory out of Cairo, but English traders there struggled to gain a foothold against the French. Aleppo, Stamboul, and Smyrna were all large cities. Stamboul had three-quarters of a million residents in the 1750s, while Aleppo had 235,000 and Smyrna's population was near 100,000 in 1700. (London, by way of comparison, London had a population of around 600,000 at the time.) Despite its smaller population, Aleppo was a more important trading center than Stamboul. A factor visiting the city in 1751 wrote that it was "the prettiest town in the Turkish Empire"<sup>27</sup> and another described it as "pretty large and well-built" if "remote from the sea."<sup>28</sup> Nevertheless he ranked it "second to few others, except Damascus, for the beauty and advantage of situation." Aleppo, through its port at Scanderoon, linked English traders to the Ottoman Empire and its countryside. Before the English arrived in the Levant, Aleppo served as a trading center for goods coming from the Indian Ocean. Direct shipping to Europe by the English and Dutch East Indian Companies cut Aleppo out of the Indian Ocean trade. Despite losing its access to certain goods, Aleppo still had a large footprint in the region. Traders Baghdad, Mosul, and beyond sent their goods across the desert to Aleppo. Silk from Persia, galls from the Mosul region, goats' hair from the desert, and drugs from Basra all arrived in

---

<sup>27</sup> Frederik Hasselquist, *Voyages and Travels in the Levant* (London: L. Davis and C. Reymers, 1766), 498.

<sup>28</sup> Charles Perry, *A View of the Levant* (London: T. Woodward, 1743), 141.

Aleppo.<sup>29</sup> City and country were mutually dependent places, and Aleppo became one of the most important places to satisfy the pan-European thirst for *Turquerie*.<sup>30</sup>

Lots of things captured the attention of Levant Company factors, who sent a stream of letters home mentioning Aleppo's broad streets or hashish-filled coffee houses, but they seemed most smitten by the horses they found in the desert. An agent for the Levant Company penned perhaps the first English exaltation of the Arabian horse. Traveling from Stamboul to Aleppo in 1597, John Sanderson, deputy to the English ambassador, rode a dark gray "Babylonian" horse. Sanderson noted that throughout the 750-mile journey his horse, despite being of "a meane stature; [and] rather to little" for its rider, never tired. Sanderson continued with his effusive praise, writing about his mount's docility, heartiness, and affection concluding that the horse was "the best" that he "ever...shalbe master of."<sup>31</sup> As one might expect given Sanderson's characterization, horses in the Ottoman Empire came at a price. In the 1660s, a pure-bred Arabian could cost thousands of pounds.<sup>32</sup>

Although desert horses commanded exorbitant prices, it was not as though Bedouins performed white glove service, and horse-dealing in the desert could frustrate English buyers. For starters, Arabs never sold mares. Parting with them amounted to "letting the breed fall

---

<sup>29</sup> Davis, *Aleppo and Devonshire*, 36. Galls are growths on oaks produced by wasp species. A nineteenth-century medical text noted "As galls contain a larger portion of tannic acid than any other known vegetable production, they possess in the highest degree the properties of an astringent." Frederic John Farre, *Manual of Materia Medica & Therapeutics* (Philadelphia: Henry C. Lea, 1866), 410. The same text notes Levant galls were the ordinary galls for sale in apothecary shops.

<sup>30</sup> McGrath, *Mr. Darley's Arabian*, 18; for a discussion of the origins of Europeans imagining and desiring the Orient, see Edward Said, *Orientalism* (New York: Pantheon Books, 1978). For the relationship between city and countryside, see William Cronon, *Nature's Metropolis: Chicago and the Great West* (New York: W.W. Norton & Company, 1991) and Raymond Williams, *The Country and the City* (London: Chatto and Windus, 1973).

<sup>31</sup> William Foster, ed., *The Travels of John Sanderson in the Levant, 1584-1602* (London: The Hakluyt Society, 1931), 15.

<sup>32</sup> Cavendish, *A New Method*, 72.

into other hands.”<sup>33</sup> Laurent d’Arvieux, French consul to Aleppo during the 1680s and one of the first Europeans to describe Bedouin horses, recalled encountering a mare whose owner would not part with her for “Five thousand Crowns.” Bedouins valued their horses so much, because, as d’Arvieux records, “she had travell’d three Days and three Nights without drawing Bit, and by that means got him clear off from those that pursued him.” The owners never tied up the mare, but instead allowed her to wander the camp moving in and out of tents with her colt receiving kisses from the tribe members. Foals wandered Bedouin camps untethered, often sleeping among the children. As soon as the young horses could bear weight, their bedfellows climbed on their backs.<sup>34</sup> Bedouins would part with their horses, but only for a price.

Buying a horse from a Bedouin was a complicated pas-de-deux whose choreography could trip up even the nimblest European trader. If a foreigner could get one of these desert traders to name a price for his horse, “it [was] about three times what he means to take.” Most often the desert breeder would demand the foreigner make an offer, and even the most hopelessly ignorant among the English could translate the invariable answer, “Bé’id.” “Far off.” The first bid had to be revised upward. In the ritual of the sale, a Bedouin might respond to a low offer by walking away or riding off choosing to let the foreigner think about his missed opportunity. Negotiations could continue in a matter of hours or the horseman might make his customer sweat up to a couple of days.<sup>35</sup> This maddening pageant made buying a horse a Kafkaesque nightmare for British factors.

---

<sup>33</sup> “Horse-Dealing in Syria, 1854—Part II” *Blackwood’s Edinburgh Magazine*, October 1859, 420.

<sup>34</sup> d’Arvieux, *The Travels of the Chevalier d’Arvieux*, 170-71. Despite celebrating the horse and horsemanship of the Middle East, these early descriptions would reinforce conceptions of tribalism and backwardness European readers possessed toward the region.

<sup>35</sup> “Horse-Dealing in Syria, 1854—Part II,” *Blackwood’s Edinburgh Magazine*, 420

The difficulty of obtaining an Arabian horse didn't deter English buyers. Despite the effort and cost associated with securing an Arabian horse, English factors sent home more than 200 horses between 1650 and 1750.<sup>36</sup> After riding out to the desert, negotiating for days, and forking over enough cash for dozens of horses at back-home prices, these men and their new mounts were still in the Ottoman Empire, far away from the familiar and welcoming pastures of the British countryside and the admiration and envy their new horses would surely inspire. I'm sure the second and third sons of the English gentry would have compared the process to the labors of Hercules. Nathaniel Harley, a Levant Company factor, suffered the travail of exporting a horse from the Ottoman Empire. Shipping a horse to England involved great "trouble, Expence and difficulty...at first to procure, afterwards to keep, and...to send away" the horse. Lord Harley's Dun Arabian, as the horse was known in England, excited so much interest that Harley had to smuggle it from Aleppo to Scanderoon. Sultan Ahmed III wanted the dun horse so badly, Harley boasted, that "Three Expresses have been sent after him, and all the passes of the Mountains between this and Scaderone Ordered to be watched and ye Marine Strictly guarded to prevent his being Ship'd off."<sup>37</sup> Harley alleged he moved his horse at night and kept him hidden as best could while he waited to send him abroad. The effort seems worth it; we hear mention that Lord Harley's Dun was "thought by all that have seen him to be the finest Horse that ever came over."<sup>38</sup> Back in England, raising and racing an Eastern horse was an impressive display of capital.

---

<sup>36</sup> Landry, *Noble Brutes*, 2.

<sup>37</sup> Letter from Nathaniel Harley to his brother Edward "Auditor of the Imprest" Harley, 15 Feb 1715, Portland Papers, British Library Additional Manuscripts 70143 (Nathaniel Harley's letters 1682-1720), 225v.

<sup>38</sup> Letter from Edward, Lord Harley, to Nathaniel Harley, 4 Dec 1716, quoted in C.M. Prior, *Early Records of the Thoroughbred Horse Containing Reproductions of Some Original Stud-Books, and Other Papers, of the Eighteenth Century* (London: Sportsman Office, 1924), 142.

Just like pickup truck advertisements, Englishmen measured power in horses. Powerful men wrote the rules of racing the sport to favor their expensive, imported horses, and then they put on enough of a spectacle to make their vision of the sport both official and popular. Those horses tell a story of ambition, empire, possession, nation-building, and knowledge, culture, and politics. The fascination with eastern breeds revealed a degree of envy towards the Ottoman Empire, and by shipping horses to Great Britain, English factors signaled their emerging economic dominance in the region. Riding on the back of an Arabian horse was like driving a Cadillac. These men had made it. Their horses carried with them genes shaped by centuries of selective breeding and new ways of thinking about pedigree.

When we met Thomas Darley at the desert encampment, things had not been going well for the young trader. The plan had always been to stay in the East just long enough to satisfy his thirst for adventure and to fill his pockets. A few years as a trader would set him up for a life of ease. He could retire to his country riding and sponsor new traders, younger men, like he once was, off to make their fortunes. But he had already given sixteen years as a factor for the Levant Company haggling in Ottoman bazaars through translators. At thirty-eight, he must have heard a nagging voice in the back of his head that the life he left behind at twenty in England was passing by without him. Darley would tell his brother Henry that he was “not soe in love with this place to stay an hour longer than is absolutely necessary.”<sup>39</sup>

Still, Darley left the Levant under ignominious circumstances. The young noble’s father had written to Syria ordering him home. The younger Darley had racked up considerable debt during his nearly two decades trading in Aleppo, and it seems that after

---

<sup>39</sup> Thomas Darley to Henry Darley quoted in McGrath, *Lord Darley’s Arabian*, 14.

bailing his son out of a £500 hole, the older Darley had enough of the expenses related to his incapable son. It was time for Thomas Darley to return home to marry, but he owed more since his father had settled his debts. Darley wrote his brother telling him he'd be off as soon as he could square away his obligations. The merchant's calendar had trapped Darley within a cycle of debt punctuated by the arrivals and departures of convoys. He'd spent his summers sleeping on the factory's roof choking in the warm desert winds biding his time until the fall harvest.<sup>40</sup>

So it was, with the inescapable stench of failure trailing him, Darley rode four or five days south from Aleppo in the spring of 1702 looking to horse trade with the Bedouins of the Palmyra desert.<sup>41</sup> The ride was long and hot and would take the caravan over ridges adorned with dwarf oaks and wild holly and across grassy plains. The clusters of long black tents, two or three together, betrayed the presence of pastoral Arabs.<sup>42</sup> Maybe he thought the horse would change his fortune. After bargaining with the Bedouin trader, Darley paid £300 for his colt, the equivalent of forty coaching mares in North Yorkshire where both his father and his memories beckoned him.

Darley's failures weren't all his own, however. Throughout the seventeenth century English trade in the Levant increased to its peak in the 1670s. That decade the Company supported 400 factors in the region. But the post-Restoration success of the Company didn't last too long. Competition with the French made it more difficult for factors to unload their plain woolen cloth, and European wars and piracy made shipping more dangerous. In 1688 a

---

<sup>40</sup> McGrath, *Lord Darley's Arabian*, 14-16.

<sup>41</sup> *Ibid.*, 23.

<sup>42</sup> "Horse-Dealing in Syria, 1854," *Blackwood's Edinburgh Magazine*, 266-67.

fire in Izmir destroyed valuable Company assets and killed two English factors. But the real blow to the Levant Company occurred in 1693, when French fleets in the Bay of Lagos destroyed more than 400 British and Dutch ships carrying cargo to the Levant. Estimates placed the value of the ships and cargo at £4 million sterling; it was a seventeenth-century Black Thursday. “Never” a contemporary Londoner observed, “had there been in the city a day of more gloom and agitation than that on which the news of the encounter in the Bay of Lagos arrived.”<sup>43</sup> Darley survived these market disruptions, but barely. When his father called him home he was nearly bankrupt.

When the HMS *Ipswich* held fast to its anchor for the eleven weeks it had been moored at Scanderoon (now İskenderun, Turkey), few would have registered either the voyage or the delay as extraordinary. Scanderoon was a port city ninety miles west of Aleppo, and the *Ipswich*'s crew waited for favorable winds and skies. The drugs and silks and spices in the hold arrived in Aleppo from Basra, carried there in caravans by local traders, and after a four-month sea voyage, they would reach the London market. The *Ipswich* carried more than just fabrics and seasonings. Somewhere below deck, a crewmember tried to calm a horse. A friend of a friend had called in a favor with the captain to ship the animal back to England. It was the most valuable thing Thomas Darley owned.

Moving horses by sea was risky. They died on even comparably short passages, and this was no typical horse. The beautiful Arabian colt was an *asil*, or pure-bred. Someone on board would have known how to transport horses and rigged a sort of hammock that looped beneath the colt's torso and lifted him so that only his hind legs touched the ground. A set of

---

<sup>43</sup> Laidlaw, *The British in the Levant*, 22-24.

ropes secured the colt's head to the rafters, and another set latched his ankles together, front to back, to prevent him from shattering his delicate legs. A canvas manger held hay, the only food he'd get on board. On 3 January 1704 the *Ipswich* weighed anchor and departed for England carrying Darley's Arabian.<sup>44</sup>

One could measure the perceived success of British imperial projects by the quality of the horses debarking at English ports. By the time the Darley Arabian arrived at Aldby Park, three in every five households in a typical English parish owned horses. With broader horse ownership, the appetite for high bred horses increased. Gervase Markham published several treatises on horses and horsemanship in the late sixteenth and early seventeenth centuries, and he extolled the Arabian as “most Swift and most Beautiful.”<sup>45</sup> Markham found Arabians “paerlesse, for [they] hath in [them] the purity and virtue of all other horses.”<sup>46</sup> Nicholas Morgan, Markham's contemporary, ranked Arabians first among thirteen breeds listed in his *The Perfection of Horsemanship*.<sup>47</sup>

Darley's Arabian arrived in England during an imperial mania for foreign horses. In 1684 Charles II gathered his court at St. James's Park to marvel at three desert horses captured during the siege of Vienna. One of the assembled courtiers was diarist John Evelyn, who trusted his “Eyes never did... behold so delicate a Creature.” Evelyn commented not only on conformation—“in all regards beautifull & proportion'd”—but also on disposition which he found “so gentle and tractable.” Most damning for domestic breeders, Evelyn

---

<sup>44</sup> McGrath, *Mr. Darley's Arabian*, 11-13.

<sup>45</sup> Gervase Markham, *Markham's Master-Piece* (London: Printed for N. and M. Boddington, 1717), 120.

<sup>46</sup> Gervase Markham, *How to Chuse, Ride, Trayne, and Dyet Both Hunting Horses and Running Horses: With All the Secrets Thereto Discovered* quoted in McGrath, *Mr. Darley's Arabian*, 19.

<sup>47</sup> Nicholas Morgan, *The Perfection of Horsemanship* (London: Edward White, 1609), 16.

blamed European grooms who treat their horses so “churlishly” making them “retaine so many ill habits.”<sup>48</sup> Compared to the specimens on display in St. James’s Park, Evelyn found English horses lacking, and the problem, he figured, lay not so much with the animals themselves but with the English.

So superior was the estimation of Arabian horses over domestic English stock that the principles of Bedouin horse rearing began percolating through British society. An English husbandry manual published in 1735 advised readers that horses should “be used with Tenderness, rather than Roughness, and no passionate Person ought to be concerned in their Breaking or Management.” These lessons resulted in a change in British riding culture including a gentler touch, a lighter stirrup, and a new riding seat.<sup>49</sup> By modeling their management in the style of the Bedouins, British horsemen tried to bring the lightness and grace of eastern horses to the British Isles.

Having spent four months below deck, Darley’s Arabian colt arrived in England in 1704, but Thomas Darley never made it back to the Isles, never escaped the stifling heat of the desert winds, and never married the young Miss Peirson, his betrothed. Two months after the departure of the *Ipswich*, Darley fell from a horse and injured his chest. After a “long and lingering fit of sickness,” Thomas Darley died on 9 March 1704 in Aleppo.<sup>50</sup>

Almost every scrap of Thomas Darley’s in the documentary record suggests that this would be a man lost to history. Despite, or perhaps in spite of, his personal and financial failures, Darley was a man of his age. He worked as an agent of empire and contributed to

---

<sup>48</sup> John Evelyn, *Diary of John Evelyn*, ed. William Bray, 4 vols. (London: Bickers and Son, 1906), 2: 437-38.

<sup>49</sup> “Stallion,” *The Sportsman’s Dictionary: Or, the Country Gentleman’s Companion, in all Rural Recreations*, vol. 2, (London: C. Hitch, 1735).

<sup>50</sup> McGrath, 25-26.

the British imagining of the Near East. He typified early modern England, and yet we talk about him because of a horse he bought while working overseas. Once the *Ipswich* docked and discharged its cargo, the bay colt made its way to the Darley family estate at Aldby in North Yorkshire, where he went to stud. Put to native English mares, Darley's colt became one of the three foundation sires of thoroughbred horses. Pedigree allowed Darley's colt the kernel of historical truth to become legendary in his own way.

## Chapter Two: Becoming British North Yorkshire, 1715

The creation of the thoroughbred as an English animal required two acts of forgetting and one of remembering. We can forgive early modern horse breeders for not knowing about the Arabian horse buried in their pasts. While Henry VIII had appointed John Leland the “King’s Antiquary” in 1533, a robust investigation into Britain’s Roman past didn’t get started until the eighteenth century.<sup>1</sup> By the time the foundation sires arrived, remembering was in vogue—Charles II, for instance, founded the Royal Society in the year of his Restoration—and breeders made sure to record pedigrees from then on.

The second act of forgetting seems more deliberate. Thoroughbreds were English the same way that cloth from Manchester or English breakfast tea was.<sup>2</sup> A raw material came from elsewhere, was “improved” in Europe, and distributed throughout the world as an English product. Surely everyone knew that breeding an English horse to a horse called the Lord Darley’s Arabian or the Byerley Turk would not produce an “English” horse. Within breeding circles, the foundation sires are often replaced by the name of a successful mid-eighteenth-century scion. The Godolphin Arabian started the Matchem (foaled 1748) line, the Byerley Turk the Herod (foaled 1758) line, and the Darley Arabian the Eclipse (foaled 1764) line. The substitution Anglicized the horses.

---

<sup>1</sup> William Stukely, England’s first great archaeologist, was a founding member of the Society of Antiquaries of London, organized in 1707. See John Schofield, John Carmen, and Paul Belford, *Archaeological Practice in Great Britain: A Heritage Handbook* (New York: Springer-Verlag, 2011), 27. For the role of the Royal Society in British antiquarianism, see M.C.W. Hunter, “The Royal Society and the Origins of British Archaeology: I” *Antiquity* 45, no. 178 (June 1971).

<sup>2</sup> For a discussion of the manifold and global inputs that went into making “Manchester” cotton, see Sven Beckert, *Empire of Cotton: A Global History* (New York: Alfred A. Knopf, 2014). For a discussion of the role of tea in the British Empire and its construction as British, see Erika Rappaport, *A Thirst for Empire: How Tea Shaped the Modern World* (Princeton, NJ: Princeton University Press, 2017).

Whereas Arabians had pedigrees connecting them to a legendary past, the thoroughbred was a progressive, forward-looking breed, a true heir to the Enlightenment. Over the course of the eighteenth century, a mélange of Arabians, Barbs, Turks, and native-born English stock, became thoroughbreds. English breeders put their imported horses to native stock or other foreign-born animals in self-conscious attempts to “improve the breed.” Rather than imagining breeds fixed in time and space, Arabians, Turks, and Barbs in the Ottoman Empire, for instance, eighteenth-century breeders recognized the power of inheritance and created the cult of the superstar stallion and replaced Oriental fascination with a sense of improved Britishness.

In England, the progeny of these foreign horses quickly lost their exoticness. Linda Colley argues that during the eighteenth century, residents of the British Isles started identifying themselves as Britons rather than English, Irish, Scots, or Welsh.<sup>3</sup> Donna Landry extends this analysis to horses. British people, newly wealthy from their mercantile adventures abroad, fashioned a culture of “aristocratic and genteel self-display.” Racing and hunting on the backs of expensive imported provided the “gentlemanly capitalist” classes what Gervase Markham had, in 1615, called “Countray Contentments.” The new merchant class defined Britishness as it came to dominate global trade.<sup>4</sup> Despite the cost associated with buying an Arabian stallion and transporting it to the British Isles, Arabian genes transformed the way common English horses looked. As early as the mid-eighteenth century, foreigners noticed how much like Arabians British horses seemed. The French naturalist Buffon wrote the “finest *English* horses greatly resemble the *Arabians* and *Barbs* in shape;

---

<sup>3</sup> Linda Colley, *Britons: Forging the Nation, 1707-1837* (New Haven: Yale University Press, 1992).

<sup>4</sup> Landry, *Noble Brutes*, 2-3.

indeed they owe their origin to them.” British horses had bigger heads and stood taller than their Arabian counterparts, however.<sup>5</sup> The transformation of Arabian horses into the quintessentially British thoroughbred shows the power of naming things and the ways in which people associated themselves with their animals.<sup>6</sup> By reading pedigrees *forward*, breeders contributed to a new discourse of breeding, even if they didn’t necessarily revolutionize husbandry.

There has been, since Roman times at least, horse racing in England, but there haven’t always been thoroughbreds. When the word “Thoroughbred” first appeared in print in 1701, it referred to men rather than horses. Samuel Johnson tells us in his 1755 *Dictionary* that the word meant “Completely educated; completely taught.”<sup>7</sup> John Hervey, first Earl of Bristol (1665-1751), seems to be the first to fix the word to horses. In 1713, Hervey offered to send the Elector of Hanover—who became King George I of England the following year—some English horses, because as he wrote, “thro-bred English horses are allowed to surpass most of ye same species.” Hervey’s horses weren’t racers, and it’s not hard to see how Hervey could be referring to a paddock education and described his horses only as broken and trained. The first reference applied to a racing horse appeared in the 1738 *Racing Calendar* when William Metcalfe advertised his horses consisting of “breeding-mares, Stallions and Colts of all ages.” The colts, Metcalfe noted, were “likely to be 12 Stone horses, thoroughbreds and very promising either for Gallopers or Hunters.”<sup>8</sup> Just like their

---

<sup>5</sup> G.L. Buffon, *The Natural History of the Horse, Translated from the French of the Celebrated M. de Buffon* (London: Printed for R. Griffiths, 1762), 65.

<sup>6</sup> For a discussion of self-definition and animal ownership see Ritvo, *The Animal Estate*.

<sup>7</sup> William Maver, *Johnson’s English Dictionary*, vol. II (Glasgow: R. Chapman, 1809), 351. Johnson rendered the word “Throughbred.”

<sup>8</sup> Hervey, *Racing in America, 1665-1865* vol.1, 55.

Arabian forebears, thoroughbreds are documentary animals. They rely on record-keeping and a robust bureaucracy. The only way to be called a thoroughbred is to be listed in the *General Stud Book*. Closed breeding has resulted in a common gene pool, but people defined the earliest thoroughbreds with this tautology: we list these horses in the *General Stud Book* because they are thoroughbreds, and we know that they are thoroughbreds because they appear in the *General Stud Book*.

Most historians associate the birth of modern horseracing with the Restoration of Charles II in 1660, but recent historians have challenged that received wisdom. Racing had been in the British Isles for awhile, and the native English horses that breeders put their imported Arabians to had already been shaped by Eastern bloodstock.<sup>9</sup> The sport began before the arrival of the foundation sires and a dedicated sporting press that preserved the pedigrees of runners and their race results. Nevertheless, the consolidation and modernization of horse racing overlapped with changing conceptions of hereditary inheritance. Historian Richard Nash argues that over the long eighteenth century, geohumoral breeding theories, like the environmental theories of racial degeneration espoused by Johann Friedrich Blumenbach, gave way to theories that valued the individual sire or dam. This change, Nash writes, “shared much with legal and political theories of inheritance and succession.” The sport of kings, then, emerged alongside limits on absolute monarchy.<sup>10</sup> Over the course of the eighteenth century, the British defined themselves and their political system using high-bred horses as both model and clay. These horses and their concomitant ideas of breeding and political and social superiority circulated throughout the Empire.

---

<sup>9</sup> Russell, *Like Engend'ring Like*; Landry, *Noble Brutes*.

<sup>10</sup> Richard Nash, “Sporting with Kings,” in Rebecca Cassidy, ed., *The Cambridge Companion to Horseracing* (Cambridge: Cambridge University Press, 2013), 14

The thoroughbred, that hybrid creature, may owe its existence to Enlightenment debates about a mechanistic natural world and the immutable character of inheritance. It was fashionable for the wealthy to import foreign horses to Great Britain to improve their native stock. It was convention to refer to a horse by a man's name (its owner) and its presumed breed or point of origin. Richard Darley kept the horse his son shipped from Aleppo at his estate, Aldby Hall, near Leeds. When the stallion arrived in England in 1704, the Darley Arabian, as it became known, went to stud becoming one of the leading sires in Great Britain and Ireland. It is one of the ironies of horseracing that the Darley Arabian never raced, and it wasn't his celebrated colt, Flying Childers, who "laid the foundations of the modern breed," but his "useless brother, Bleeding Childers," who burst blood vessels every time he galloped.<sup>11</sup>

How long does it take for something to become native? In other words, how long until something that's been in a place for awhile belongs there? As I type this sentence, the wind blowing outside is making the shadow of a eucalyptus tree dance across my office floor. Australians introduced eucalyptus trees to California during the gold rush; they've been here since statehood, yet I've never gotten a definitive answer whether they *belong* here. Rebecca Cassidy, an anthropologist who studied the culture of contemporary horseracing observed a related phenomenon about racehorses: "the blood of racehorses is perceived as gendered, noble, finite and English by its human custodians."<sup>12</sup> Despite

---

<sup>11</sup> McGrath, *Mr. Darley's Arabian*, 5-6.

<sup>12</sup> Cassidy, *Sport of Kings*, 11. For a discussion of American elites adopting the cultural symbols of European aristocrats, see Sven Beckert, *The Monied Metropolis*; Phillip Thurtle, "Breeding and Training Bastards:

foundation sires with names like the Darley Arabian and the Byerley Turk, thoroughbreds became English animals remarkably quickly. This transformation relied on two things: a professionalized racing bureaucracy and a stock of foreign-bred horses. Recording pedigrees and the bureaucratic and technological infrastructure required to project pedigrees into the future changed the way people thought about thoroughbreds. No longer were they exceptional eastern horses, they became thoroughly bred English animals.

As early as the reign of Henry VIII (r. 1509-1547), the historical record is filled with mentions of all types of exotic horses from this period: Arabians, Turks, and Barbs. However, such nomenclature was notoriously imprecise. Journalist Christopher McGrath speculates that the terminology often referred to an assumed provenance, a point of embarkation, or a “commercial vogue.” A “Turk” could denote a horse from anywhere from the Balkans to Mesopotamia, and racing folk sometimes used “Barb,” a name that connotes an origin in North Africa, to refer simply to any swift racer.<sup>13</sup> That the mythology of the thoroughbreds links the breed to horses bred in England from about the Restoration, is a sociological and political issue rather than a genetic one, Franco Varola argues.<sup>14</sup>

To develop a breed of racing horses, the British first needed a robust racing culture. Horseracing fans remember James I (r. 1603-1625) fondly. “Whatever the limitations of James I as a King,” horse racing historian Frank Siltzer wrote in 1923, “he should have very

---

Distinction, Information, and Inheritance in Gilded Age Trotting Horse Breeding,” in Phillip Thurtle and Robert Mitchell, eds., *Data Made Flesh: Embodying Information* (New York: Routledge, 2004), 68.

<sup>13</sup> McGrath, *Mr. Darley's Arabian*, 28-29, 31.

<sup>14</sup> Franco Varola, *Typology of the Racehorse* (1974; London and New York: J.A. Allen, 1977), 2.

honourable mention in any record of Newmarket and the Turf.”<sup>15</sup> James first came to Newmarket, the market town in Suffolk, in 1605; he enjoyed the country retreat so much that he returned regularly eventually building a royal residence in the town. James founded Newmarket, about sixty-five miles north of London, as a hunting lodge initially, but, as historian Dennis Brailsford writes, it became the “unchallenged centre for upper class horse racing.” Unlike more democratic tracks, Newmarket never drew from a broad cross section of society: only servants, grooms, and jockeys came from the lower orders of society. Under James I, Newmarket had no grandstand, and spectators galloped alongside the racers creating an atmosphere of danger and masculinity. Women, like poorer people, found no amusement at the early Newmarket meetings.<sup>16</sup> Newmarket grew alongside royal patronage of horse racing, but the allure of pretty horses exceeded royal patronage alone.

Even amid the shuttered theaters and idle sports fields of Cromwell’s Commonwealth (1649-1660) when the sport of kings fell into a state of desuetude, the Lord Protector recognized the power of pedigree. Cromwell knew the importance of maintaining the stock of English horses, and he kept his famous white Turk and a brood mare called the coffin mare. But racing he would not abide. Race meetings had provided opportune meetings for Royalists. “[U]nder the pretence of a horse-race,” Clarendon wrote in his *History of the Rebellion*, “600 horses were collected and marched to Reigate” in May 1648. Citing the “evil use” made by “ill-disposed persons,” Cromwell issued a proclamation on 24 February 1654, “prohibit[ing] and forbid[ding] all horse-races, and all meetings of any persons whatsoever, upon pretence or color of any horse-races” for six months. A subsequent act banned the sport

---

<sup>15</sup> Frank Siltzer, *Newmarket: Its Sport and Personalities* (New York: Charles Scribner’s Sons, 1923), 19.

<sup>16</sup> Dennis Brailsford, *A Taste for Diversions: Sport in Georgian England* (Cambridge, UK: The Lutterworth Press, 1999), 24-25.

for an additional eight months in 1658.<sup>17</sup> Cromwell's distaste for racing had more to do with politics than Puritanism. The ban prevented large groups of mounted men, usually Royalists, from assembling.

The Restoration of the Monarchy in 1660 placed Charles II (r. 1660-1685) on the throne and brought favor once again upon the Turf. Under Cromwell, Newmarket had become shabby through disuse.<sup>18</sup> Only parts of the royal buildings on the street front, the tennis court, pantry, and a few outbuildings survived the neglect, but after the Restoration, one could see the "arches of the cellars" and the "chimneys in the angles and corners" of the "New Palace of Pleasure" taking shape.<sup>19</sup> The great diarist Samuel Pepys recorded Charles's passion for the races noting on 7 March 1669 that the Monarch "set out for Newmarket at 3 in the morning, to see some foot and horse-races." Driving in the darkness that early morning, the King's carriage flipped leaving him "all dirt, but no hurt." This experience and the apparent difficulty of getting to Newmarket did nothing to dampen Royal patronage of the races. A few weeks later, Pepys once again recorded the King's departure for Newmarket, this time for a week-long visit.<sup>20</sup> During the Restoration's "days of ease," described by Alexander Pope in "Imitations of Homer," luxury returned to the kingdom and "peers grew proud in horsemanship" and "Newmarket's glory rose."<sup>21</sup> At that time, the track at Newmarket consisted of "a spacious level meadow" extending four miles and "covered

---

<sup>17</sup> Edward Hyde, 1<sup>st</sup> Earl of Clarendon, quoted in Anon, *Horse-Racing: Its History and Early Records of the Principal and Other Race Meetings with Anecdotes, etc.* (London: Saunders, Otley, and Co., 1862), 53-55.

<sup>18</sup> Anon, *Horse-Racing*, 59-60.

<sup>19</sup> John Evelyn quoted in Siltzer, *Newmarket*, 110-11.

<sup>20</sup> Samuel Pepys, quoted in Anon, *Horse-Racing*, 164-65.

<sup>21</sup> Alexander Pope, "Imitations of Horace," (1733-38).

with very short grass” and “marked out by tall wooden posts, painted white.” Horses raced over the four-mile course mounted by riders in fine taffeta. The wealthiest observers of the races watched from horseback and chased the action on the backstretch while “trumpets and drums” sounded a fanfare for the winner.<sup>22</sup>

It seems that some of the most notable commenters on eighteenth-century British life viewed horses more charitably than they did racing or its patrons. When novelist Daniel Defoe’s travels through Great Britain took him to the races in the 1720s, he saw a “great concourse of the nobility and gentry.” The races attracted the upper crust from all around England, but rather than rubbing elbows with society types, Defoe recoiled from their baseness. “[T]hey were all so intent,” Defoe wrote, “so eager, so busy upon the sharpening part of the sport – their wagers and bets.” Racegoers prioritized taking each other’s money over the day’s other activities, and, in their coarseness, “they acted without respect to faith, honour, or good manners.” Horses more than people captured the hearts and eyes of the hoi polloi. Defoe, sickened by “the jockeying part,” left the company of the men—he also complained “you see no ladies at Newmarket”—and “pleased [himself] with observing the horses.”<sup>23</sup>

Almost as soon as breeders realized the speed and utility of thoroughbreds, they cast their animals as native. Defoe boasted about the speed and comeliness of Yorkshire horses. Yorkshire horses could, Defoe ventured, “Outdo for speed and strength the swiftest horse that was ever bred in Turkey or Barbary.” Defoe saw the purebred eastern horses as “fine

---

<sup>22</sup> Conte Lorenzo Magalott, *Travels of Cosmo the Third, Grand Duke of Tuscany, through England during the Reign of King Charles the Second* (1669), (London: J. Mawman, 1821), 211.

<sup>23</sup> Daniel Defoe, *Tour through the Eastern Counties of England, 1722* (London: Cassell & Company, Ltd., 1891), 154-55.

delicate creature[s]” that were “long-jointed, weak-pasterned, and under-limbed.” By comparison, their Yorkshire counterparts had “as light a body and stronger limbs.” Their “short joints” and “well-boned” structure endowed the Yorkshire horses with both speed and strength. The success of the Yorkshire horses on the track inflated their prices. Although Yorkshire breeders didn’t “preserve the pedigree of their horses for a succession of ages, as they say they do in Arabia and in Barbary, yet they christen their stallions..., and know them, and will advance the price of a horse according to the reputation of the horse he came of.”<sup>24</sup>

Defoe spoke too soon. It wasn’t just horses or management style that British horsemen imported from the deserts. British traders brought with them also the technology of the horse pedigree. Bedouins kept careful pedigrees of their stock, particularly their mares, which they valued as the fountains of an ancient lineage. Stories of children reciting their mare’s pedigrees with their dying breaths served to illustrate in England both the importance of pedigree and the strangeness of the East.<sup>25</sup> Horses imported from the Levant helped transform not only the genetic makeup of horses in the British Isles, but also the technical aspects of horse breeding. By the eighteenth century, recording pedigrees was commonplace. The relative ease of forging a pedigree invited some unscrupulous elements into the breeding world, but the precedent for pedigree-keeping was set with the introduction of Eastern horses to Great Britain.

We met the Darley Arabian in the last chapter, but two other stallions contributed to the development of the thoroughbred. The foundation sires, as they’re called now, arrived in England between the 1680s and the 1730s. The Byerley Turk, the Darley Arabian, and the

---

<sup>24</sup> Daniel Defoe, *A Tour Through the Whole Island of Great Britain*, eds. P.N. Furbank and W.R. Owens (New Haven: Yale University Press, 1991), 268.

<sup>25</sup> McGrath, *Mr. Darley’s Arabian*, 21.

Godolphin Arabian were not contemporaries, but rather, in a powerful metaphor for succession, exerted their genetic influence on three consecutive cohorts. They were not immediately renowned as their outsize legacies would suggest. In fact, they only became “foundational” in the early nineteenth century. By then, there was a need for mythology and stories abounded about the noble steeds, who lived in England consecutively beginning in the late seventeenth century. Evidence, as opposed to stories, is scant though. We hear that the the Byerley Turk, the first of the foundation sires arriving in England, was Captain Byerley’s charging horse at the Battle of the Boyne, when Protestant William of Orange clashed with Catholic Jacobite forces at the River Boyne in Ireland. Stories suggest that Captain Byerley seized his Turk as spoils of war at the Battle of Buda or Vienna, but no record exists confirming Byerley’s service in these Continental skirmishes. Historian Richard Nash rejects this narrative outright and even argues that the Byerley Turk “though probably of imported ancestry” was English-born. Regardless of his cloudy origins, we know the Byerley Turk stood at stud in North Yorkshire for twelve years or so, passing his genes on to relatively few horses. Darley’s Arabian followed the Byerley Turk, arriving in England in 1704, and the earliest verifiable records of the Godolphin Arabian place him in the country in 1729. He stood at the stud of Edward Coke of Longford, Derby. Godolphin, the last of the foundation sires died on Christmas Day, 1753. A death notice in the *Derby Mercury* lists his birth year as 1721, making it plausible the Godolphin arrived in England along with five other horses brought to the country by the ambassador of the Emperor of Morocco in August 1725. At the times when these three stallions arrived in England, they were seen just as representatives of

southern blood imported to “revitalize a stagnant breed.”<sup>26</sup> They became foundational later, as the discourse of progress seeped into British breeding circles.

Eastern horses brought “speed, mobility, soundness, tractability and courage” not only to racing horses, but also to cavalry horses and hunters. Initially avoided by a conservative cadre who preferred obsolete chargers bred to bear 400 pounds of man and armor, eastern horses made inroads in the cavalry when military strategists realized that the characteristics that made for good racers also made good war horses in the age of gunpowder. Even horses bred to run to the hounds (for fox hunting), who needed size and the ability to clear obstacles, benefited from eastern blood. Blood became the solution to the needs of the British horse set. This experiment with breeding horses corresponded with a post-Restoration order that sought to define political authority by hereditary succession as well.<sup>27</sup>

The thoroughbred came into being alongside the formalization of horse racing in eighteenth-century England. Today racing thoroughbreds is a data-driven sport, but the earliest documentary evidence is sparse at best. Record-keeping, and horse registration in particular, appeared haphazardly during the Restoration and focused on the human rather than the horse. Newspapers and a dedicated sporting press began publishing systematized race results in some areas as early as 1709, and historical registers appeared from 1727.<sup>28</sup> Record-keeping made the thoroughbred horse, and the meticulous record keeping began around the same time as the arrival of the foundation sires.

---

<sup>26</sup> Nash “Sporting with Kings,” 19.

<sup>27</sup> McGrath, *Mr. Darley’s Arabian*, 29-30.

<sup>28</sup> Nash “Sporting with Kings,” 21.

As racing in England grew in popularity, it generated more and more data. The Crown established prizes, usually plates, and dictated rules. A set of regulations from 1701 listed the weight a horse must carry, the configuration and distance of the course, and who may participate in a dash “upon the third Thursday in every year.”<sup>29</sup> In 1706, Prince George of Denmark, the consort to Queen Anne, established two annual races. At Black Hambleton, in Yorkshire, racers competed for a “gold plate, value one hundred guineas, to be run for at Black Hambleton in Yorkshire,” and every second Thursday in October riders at Newmarket vied for an equal prize.<sup>30</sup> In addition to funding races, Prince George kept a large stable and raced horses in his name. The Prince had nearly one thousand pounds tied up in horses in 1709. The animals ranged in value from “good for nothing” mares to stallions worth £80.<sup>31</sup> The Prince’s hobby cost him dearly. Just like today, the cost of buying a horse is only the beginning of the expenses related to horse ownership. In October 1707, George employed no fewer than eight people to manage his string of horses, which he occasionally supplemented with new horses.<sup>32</sup>

Prince George lived during a period of transformation in the culture of English horse racing. Zacharias Konrad von Uffenbach, a traveler from Frankfurt am Main, found “vast crowds on horseback, both men and females...riding through the streets at prodigious speed”

---

<sup>29</sup> Heath and Verney Papers, Vol. XI (ff.150), Papers rel. mainly to Tytherington and Itchington, co. Glouc.; 27 Hen. VIII, British Library, Egerton MS2988: 1535-1821. Collection Area: Western Manuscripts, f.121

<sup>30</sup> Prince George of Denmark: letters, accounts and papers relating to the household and estate of Prince George of Denmark, consort of Queen Anne, put together following his death in testate on 28 Oct Egerton MS 3809: 1686-1712 Collection Area: Western Manuscripts f19-21

<sup>31</sup> Prince George of Denmark: letters, accounts and papers relating to the household and estate of Prince George of Denmark, consort of Queen Anne, put together following his death in testate on 28 Oct Egerton MS 3809: 1686-1712 Collection Area: Western Manuscripts f89.

<sup>32</sup> Prince George of Denmark: letters, accounts and papers relating to the household and estate of Prince George of Denmark, consort of Queen Anne, put together following his death in testate on 28 Oct Egerton MS 3809: 1686-1712 Collection Area: Western Manuscripts, f47

at a race meeting in 1710.<sup>33</sup> Von Uffenbach's travels through England coincided with a period of formalization in the sport. Spectators rode roughshod trying to catch a glimpse of racers on courses barely demarcated from the viewing area. "Great unpleasantness can also arise," Von Uffenbach reported, "if one crosses the path of anyone racing and hinders him; for then all his backers fall on one." In the early eighteenth century, officials only staked courses, and collisions happened often and could be fatal. The racers weren't the only risks. Spectators, like von Uffenbach's companion, could collide and become entangled with one another. For all its informality—the courses themselves tended to be rough and uneven—racing followed certain rules scrupulously. The weighing of jockeys, for example, both before and after a race suggested an emerging culture of standardized rules.<sup>34</sup>

Racegoers spurred regulation into effect to protect the money they wagered on horses; officials weighed jockeys to make sure that horses carried the appropriate weight for their age. One of the solutions was a more reliable form of remembering. Everybody at the track had a stake in formalizing the rules. Historian Dennis Brailsford writes, "the patrons, promoters, players and spectators were all in their different ways seeking more regular and reliable play and seeking a continuity which could depend upon something more secure than custom and oral tradition."<sup>35</sup> Rules and formal institutions emerged together. The clubs that hosted races also became the arbiters of disputes and interpreters of rules. Beginning in the mid-eighteenth century, organizations emerged to administer horseracing. Among these the Jockey Club, Hambleton, and the White Conduit Club drew members from around the

---

<sup>33</sup> Zacharias Konrad von Uffenbach, *London in 1710*, ed. and trans. W.H. Quarrell and Margaret Mare (London: Faber and Faber, 1934), 106.

<sup>34</sup> von Uffenbach, *London in 1710*, 106.

<sup>35</sup> Brailsford, *A Taste for Diversions*, 161.

kingdom. The clubs filled the vacancy left by the death in 1727 of Tregonwell Frampton, the Keeper of the Running Horses for the royal family. The first two Georges (George I, r. 1714-1727; George II, r. 1727-1760), showed little interest in the sport, and regulation of horseracing fell, therefore, to the nobility of the sport. As the membership of the Jockey Club indicates, the nobility of horse racing was the same, by and large, as the peerage.<sup>36</sup>

As the number and value of horses and prizes increased, breeders longed for data. A horse was only valuable as long as it won races. After its racing career a horse's worth was measured by the speed of its produce. Prince George's mares appraised as "good for nothing" garnered their evaluation through the speed of their offspring. Breeders subscribed to the principle that like engenders like, and the more studious among them began compiling the results of races. In 1727, John Cheny (or Cheney) published the *Racing Calendar*. Cheny included in his Calendar a list of all the horse races run in England and Wales with a value of £10 or more. The first edition of the *Racing Calendar* listed more than one hundred races. Before Cheny nobody kept systematic records of horse races, and the results that survive are fragmentary. The *Racing Calendar* provided the first attempt of a survey of racing horses and their results.<sup>37</sup>

Horse racing, being so highly capitalized and so heavily wagered, needed an impartial body to adjudicate disputes. The Jockey Club stepped in to fill this role. Originally conceived of as an upper-class social club – the eighteenth century was a boom period for gentleman's clubs – the Jockey Club met at the Star and Garter in Pall Mall. Members of this club may have supported John Cheny's 1729 compilation, *An Historical List of Races*, a work notable

---

<sup>36</sup> Brailsford, *A Taste for Diversions*, 161-62.

<sup>37</sup> "Horses," *Encyclopedia Britannica: A Dictionary of Arts, Sciences, and General Literature*, ninth ed., vol. xii (Philadelphia: Maxwell Sommerville, 1894), 205.

as the first comprehensive flat racing calendar including the dates and results of all races on the turf. A generation later, Nash writes, the Jockey Club reinvented itself as the “national centre of racing.” In 1751, the club announced itself in Pond’s *Sporting Kalendar*, advertising a race at Newmarket the following spring “by horses the property of the Noblemen and Gentlemen belonging to the Jockey Club.” A series of internal reforms led to the Jockey Club adopting a “more formal institutional presence” that left the Jockey Club in charge of resolving racing disputes.<sup>38</sup> Newmarket’s exclusivity made it unique among British tracks. In the rest of the country, local race meetings drew fans from all classes. William Powell Frith’s oil painting from the 1850s, *The Derby Day*, shows aristocrats, swindlers, capitalists, and country folk all on their way to Epsom Downs in the English countryside. In fancy horse-drawn carriages or in the fray on foot, the crowd moved with singular purpose to watch the Derby Stakes and to enjoy the day’s other festivities.<sup>39</sup>



Figure 1: William Powell Frith, *The Derby Day*, 1856-58. Oil paint on canvas, 100cm x 220 cm. Tate.

---

<sup>38</sup> Nash, “Sporting with Kings,” 21.

<sup>39</sup> William Powell Frith, *The Derby Day*, 1856-58. Oil paint on canvas, 100cm x 220cm. Tate.

Members of the gentry filled the inns at even smaller racing events, and the larger meetings, like Royal Ascot, held nightly balls and public breakfasts for the attending peers. Ordinary folk thronged the racegrounds, which became like summer carnivals with stalls for food and drink, gambling, sideshows, and comedic actors. The inclusion of cock fights and whoring made these eighteenth-century affairs seem like unseemly county fairs. These events drew people from miles around. James Clegg, a dissenting minister, had the unenviable position of dissuading his congregation from going to the races. Members of his flock attended up to four meetings the farthest being twenty miles away from their parish in Derbyshire's Peak District. We know many of Clegg's parishioners traveled to the 1736 Manchester Races, including the workmen roofing his house.<sup>40</sup>

Despite the bristling of critics, the Jockey Club and its noble members managed to nationalize British racing culture. The Jockey Club supplied judges for races providing a decentralized and poorly organized sport with a centralized governing body. The Jockey Club advertised its rules, and even the most out-of-the-way races adopted them. Nevertheless, crowds at local races pressured officials into making popular, but wrong or unfair decisions. When a new course opened at Doncaster, for instance, people applauded the separation of judges from the general population. Judges and stewards should, like the Jockey Club, rise above the fray. Racegoers appreciated this impartiality, but as a consequence of deferring to the Jockey Club for judgments, they had to accept the Club's

---

<sup>40</sup> Brailsford, *A Taste for Diversions*, 25.

rules. The Jockey Club only agreed to adjudicate disputes if the races were run under Jockey Club rules.<sup>41</sup>

The Jockey Club formed during a period of political turmoil as well as upheaval on the track. The careers of the three foundation sires, which proceeded consecutively from the 1690s to the 1750s, coincided with what Richard Nash refers to as the “transitional period in which England articulated, as a settled and secure compromise, the parliamentary monarchy that followed the death of Charles and finally and definitively established itself with the final defeat of the Jacobite uprising of 1745.” The Duke of Cumberland, also known as the Butcher of Culloden or Prince William Augustus, got involved with the Jockey Club after squashing the Jacobite uprising. Cumberland bred Eclipse, the direct descendant of the Darley Arabian, and founder of the modern Eclipse family of thoroughbreds. Cumberland also bred Herod, a descendant of the Byerley Turk, and the patriarch of another of the modern thoroughbred families.<sup>42</sup> Cumberland brought the royal family back to horseracing ending a generation of neglect. His contemporary, Horace Walpole, commented that Cumberland “won as many hearts at Newmarket as he lost in Scotland.”<sup>43</sup>

The war between Protestants and Catholics in the northern part of England, where early breeding was concentrated, and changing theories of heredity helped shift the center of power southward toward Newmarket and the Jockey Club. Climatic theories of inheritance, the geohumoralism that informed early theories of racial difference, held that northern horses benefited from periodic infusions of hot-blood from more southern climes. Englishmen

---

<sup>41</sup> Brailsford, *A Taste for Diversions*, 173-74.

<sup>42</sup> Nash, “Sporting with Kings,” 22.

<sup>43</sup> Horace Walpole to the Hon. H.S. Conway, May 5 1753 in Peter Cunningham, ed., *The Letters of Horace Walpole, Fourth Earl of Orford*, vol. II (Edinburgh: John Grant, 1906), 330.

imported horses like the Darley Arabian and the Byerley Turk not so much to satisfy an eastern fetish but to slake a thirst for southern blood. Just like real thirst, a sip only satisfied the longing for a while. Geohumoral theories suggested periodic infusions of new southern blood. Britons continued importing Arabian horses throughout the eighteenth century. But by the middle of that century the idea of prepotency, that certain individuals exert an undue influence on their progeny, superseded environmental explanations, and the Godolphin Arabian, the last of the foundation sires imported to England, became the country's most fashionable sire. Veterinarian William Osmer remarked in 1756, "There never was a horse (at least that I have seen) so well entitled to get racers as the Godolphin Arabian." The Godolphin Arabian stood at stud in Cambridgeshire.<sup>44</sup> Prepotency redefined hereditary inheritance for early modern breeders.

By the eighteenth century, the nobility of high bred and imported horses became a common trope among people writing about the turf, and the attributes of horses reflected, as by a mirror, on to people closest to them. Satirist and political observer Charles Pigott savaged the horseracing elite in a three-volume series published in the 1790s. Pigott, however, used the metaphor of the mirror differently, "to shew Vice its own image." Pigott hoped to upend British society with his attack on the horse racing set. He loathed the aristocracy "who derive[d] all their consequence from rank or fortune, none from merit." Pigott gave individual members of the Jockey Club their comeuppance citing the "corruption and filthy debauchery" of luminaries of the turf and society like the Prince of Wales, the Duke of York, and Charles II's illegitimate son the Duke of Grafton.<sup>45</sup>

---

<sup>44</sup> Nash, "Sporting with Kings," 23.

<sup>45</sup> Charles Pigott, *The Jockey Club: Or a Sketch of the Manners of the Age* (New York: Thomas Greenleaf, 1793), iii-iv.

By the mid-eighteenth century the Jockey Club controlled horse racing in the United Kingdom. The standardization of the sport at tracks across the nation led to a proliferation of sporting journalism. The Jockey Club also dictated that horses running on its tracks be registered with the organization. The emergence of bureaucratic infrastructure helped define the thoroughbred.

Despite breeding manuals advising readers to breed native horses to foreign horses, we have reliable evidence for only about 20 foals sired by the Darley Arabian. These twenty foals helped define Britishness as the empire spread. The thoroughbred became an emblem of empire and a mascot of power and wealth. Horseracing's popularity increased the scope and potency of these metaphorical associations, while imperial ambitions enlarged the geography of the British Empire bringing thoroughbreds and their many splendors to the far reaches of the earth.

According to horseracing lore, which resembles the works of Herodotus in that fact and fantasy become inseparable components of a relived history, thoroughbreds came to North America in 1730 with the debarkation of Bulle Rock in Virginia. Bulle Rock must have stepped lightly from his berth, because he left very little trace for historians to follow. According to the *American Stud Book*, Samuel Gist and Samuel Patton imported Bulle Rock into Virginia in 1730. Despite Bulle Rock's importance as the first American thoroughbred, the compilers of the *American Stud Book* acknowledged that they could not "find this horse...he being foaled before the issue of either the Stud Book or Racing Calendar." Nevertheless, the *American Stud Book* lists Bulle Rock as got by the Darley Arabian out of a

Byerley Turk mare.<sup>46</sup> Gist and Patton, the enterprising pair who imported Bulle Rock, advertised their stallion in local Virginia newspapers hoping the gentlemen of the colony would pay to breed their mares to the best quality English or Arabian blood. But Gist and Patton may have spotted the thoroughbred trend before their neighbors succumbed to the bug. Charles Trevathan, writing in 1905, noted “[O]n far occasion we find in an old pedigree, at its very American remoteness, ‘This horse was by Bulle Rock.’”<sup>47</sup> Thus Bulle Rock remains as only a shadow, in both genes and documents.

Despite having origins in the Orient, thoroughbreds became British animals within a generation or two. The reach of the Empire hastened their spread, and colonizers built up tracks in the remotest corners the Empire. If we trust the legend, codified in the first edition of the *General Stud Book* a century after the fact, the Byerley Turk, one of the foundation sires, “was Captain Byerly’s charger in Ireland in King William’s wars (1689, &c.).”<sup>48</sup> In that case, thoroughbreds were literally agents of empire.<sup>49</sup> Thoroughbreds arrived in Australia in the 1780s when one colt, one stallion, and three mares arrived on the *Lady Penrhyn* from Cape Town.<sup>50</sup> By projecting pedigrees into the future—by cultivating the importance of individual inheritance and prepotency—breeders turned thoroughbreds into a different type of symbolic animal. As Arabians, the foundation sires’ connection to ancient historical

---

<sup>46</sup> S.D. Bruce, *The American Stud Book: Containing Full Pedigrees of All the Imported Thorough-bred Stallions and Mares, with Their Produce, Including the Arabs, Barbs, and Spanish Horses, from the Earliest Accounts of Racing in America, to the End of the Year 1872; Also All the Native Mares and Their Produce* (New York: Sanders D. Bruce, 1884), 10.

<sup>47</sup> Charles Trevathan, *The American Thoroughbred* (New York: The Macmillan Company, 1905), 4-5.

<sup>48</sup> *The General Stud Book, Containing Pedigrees of Race Horses, &c. &c. From the Earliest Accounts to the Year 1826, Inclusive*, vol. 1 (Brussels: Meline, Cans and Co., 1839), 443.

<sup>49</sup> For a discussion of the export of culture to the Empire, see Catherine Hall, ed., *Cultures of Empire: Colonizers in Britain and the Empire in the Nineteenth and Twentieth Centuries: A Reader* (Manchester: Manchester University Press, 2000).

<sup>50</sup> “Horses” in *The Australian Encyclopedia*, vol. 4 (Canberra: Australian Geographic, 1996), 538.

processes reflected a personal and imperial association with the grandeur of the past. By making pedigrees future-facing, breeders turned to their horses into symbols of progress and mastery, something that could modernize the farthest corners of the empire.

### Chapter Three: Breeding the Bluegrass Lexington, KY, 1797

You can't get very far in Lexington, Kentucky, these days without being reminded that horses spurred that city's growth. Having the state's flagship university and hospital system probably helped, but, really, the metabolism of the city runs on hindgut fermentation. (Unlike ruminants, horses have only one stomach, which breaks down cellulose with symbiotic bacteria. Fermentation takes place after digestion in the stomach.) If the economic engine of the region weren't obvious from the farms and mansions, the Lexington Visitor Center sponsors a scavenger hunt featuring the city's top ten thoroughbred landmarks.<sup>1</sup>

The Bluegrass Region, with its thousand-acre properties, stone fences, and slate-roofed barns, exudes effortlessness, but it's that type of studied indifference that requires lots of trying. This landscape took work, and Kentucky thoroughbred owners built this world especially for their horses. The Kentucky landscape is as much a consequence of artificial selection as a thoroughbred's size or speed. In defining the "extended phenotype," evolutionary biologist Richard Dawkins asserts, "An animal's behavior tends to maximize the survival of the genes 'for' that behavior, whether or not those genes happen to be in the body of the particular animal performing it."<sup>2</sup> In other words, animals' behaviors shape their environments to maximize survival.

I've begun to think about the entire Bluegrass region as part of the thoroughbred.

The Bluegrass isn't just grass and horses, though. The image of Kentucky's Bluegrass Region is that it was *destined* for horses. In fact, Euro-Americans have repeated this refrain

---

<sup>1</sup> "'Big Lex' Scavenger Hunt," Lexington Visitors Center, accessed May 13, 2018, <https://www.visitlex.com/things-to-do/scavenger-hunt/>.

<sup>2</sup> Richard Dawkins, *The Extended Phenotype*, xiii.

since crossing into the territory in the late eighteenth century. The region's early settlers *built*, or more accurately demanded their bonded labor build, the region for horses. The horses did some of the work, too. Horses and slaves reshaped a grassland ecosystem that appeared in the region relatively recently. Those grasses took root in a soil full of mineral deposits dating back hundreds of millions of years. The Bluegrass reflects the collision of several time scales: the geological, the biological, and the historical.

The earliest settlers to the Bluegrass noticed how good the soil was for raising horses, but how did they make that determination? How natural could it be, after all, to raise an exotic species in a region? Although horses did not exist in North America at the time of invasion, that the Bluegrass region became a world-center of horse production represents something of a homecoming for the species. The ancestor to modern horses evolved in North America. The genus of three-toed equids gave rise to the modern single-toed genus *Equus*. Equids diverged from a common ancestor between 3 and 5 million years ago. By the Pleistocene, North America was home to five species of *Equus*. Since then, wild equids declined worldwide, and they disappeared from North America about 8,000 years ago. Nobody knows exactly why horses died off in the Americas, but some hypotheses include overkilling by people, contagious disease, and climate change. The Pleistocene extinctions were less complete in Asia, Africa, and Europe. Although the wild ancestors of domestic horses vanished, the modern domesticated horse survived.<sup>3</sup> Horses became one of the best examples of what Alfred Crosby described as the Columbian Exchange.<sup>4</sup> Horses were non-

---

<sup>3</sup> Patrick Duncan, *Horses and Grasses: The Nutritional Ecology of Equids and Their Impact on the Camargue* (New York: Springer-Verlag, 1992), 8-10.

<sup>4</sup> Alfred W. Crosby, *The Columbian Exchange: Biological and Cultural Consequences of 1492* (Westport, CT: Greenwood Publishing Group, 1973).

existent in the Americas at the time of contact, yet certain places, like the American West or Lexington, are unfathomable without horses. Euro-Americans settling in Kentucky narrated the place as suitable for raising horses and then mobilized everything in their power, abundant wealth, an enslaved labor force, to make it so.

When European explorers ventured into Kentucky, they found a host of animals, including bison, bears, deer, and elk, but very few people. In fact, Indians from the region used the Great Meadow as a hunting ground. Archaeological evidence confirms the continued existence of native peoples in the region for over 10,000 years before the arrival of Europeans. When French explorers entered the region in the late seventeenth century, they found settlements on the south side of the Ohio River. A census of the region in 1736 counted 200 Shawnee men at Eskippathiki on the eastern edge of the Bluegrass region. Dr. Thomas Walker, a surveyor of western lands for the Loyal Company of Virginia, recorded that on an expedition through the region in 1750 his six-man party killed “13 Buffaloes, 8 Elks, 53 Bears, 20 Deer, 4 Wild Geese, about 150 Turkeys, besides small game.” Despite this astounding quarry, Walker noted that the party exercised restraint and they “might have killed three times as much meat, if [they] had wanted it.”<sup>5</sup> The surveying parties found the lack of people less likely than the quantity of game. Popular imagination depicted North America, and especially its interior, as a place of vast resources, and Europeans couldn’t believe that Indians would let such abundant resources fallow.<sup>6</sup>

The success of horse breeding in Kentucky led to a consolidation of Kentucky farms. So many successful farms flanked the Paris Pike that Kent Hollingsworth dubbed the road

---

<sup>5</sup> J. Stoddard Johnston, ed., *First Explorations of Kentucky: Doctor Thomas Walker’s Journal* (Louisville: John P. Morton and Company, 1898), 75.

<sup>6</sup> Aron, *How the West Was Lost*, 6-7.

the “Wall Street of the Bluegrass.” The number of large farms on Paris Pike contributed to a parklike landscape aesthetic. Rolling hills, green grass, and white-fenced pastures defined the farms surrounded by mortarless limestone fences. Constructed with slave labor between 1820 and 1860, mortarless stone fences required more “skill, technique, experience, time, and patience” than walls using mortar. According to geographers who completed a “fence traverse,” the extant stone walls are limited to livestock areas with ready access to limestone. The Inner Bluegrass Region remains one of the few places in the United States with such an abundance of stone fences. The success of Kentucky stock farms has preserved the fences in the region.<sup>7</sup> Now those fenced-in rolling Bluegrass hills are home to some of the world’s most expensive horses.<sup>8</sup>

The Bluegrass of today is an assemblage, a layering of historical factors occurring in geological, evolutionary, and historical time. Geology, ecology, and political economy are several of the strands that interacted to form the complex political ecology that helped turn Kentucky’s Bluegrass Region into horse country. In previous chapters, I advocated thinking about the politics of thoroughbreds. If thoroughbreds are political animals, then the landscapes that supported them, large farms characterized by outbuildings (barns always, slave quarters sometimes), double fencing, and comfortable pastures, are political too.<sup>9</sup>

---

<sup>7</sup> Mary E. Wharton Papers 1997Ms138 Box 39 folder 1 Horse Industry, Research Notes on Paris Pike Farms undated, University of Kentucky Special Collections.

<sup>8</sup> Federal Writers’ Project of the Works Projects Administration for the State of Kentucky, *Kentucky: A Guide to the Bluegrass State* (New York: Harcourt, Brace and Company, 1939), 12-13. In his seminal book, *Roll, Jordan, Roll*, Eugene Genovese depicts the slave-owning south as a paternalist society.

<sup>9</sup> Here I rely heavily on the pioneering work of cultural geographer Carl Sauer. Sauer’s 1925 work “The Morphology of Landscape” argues against environmental determinism writing “In the chorologic sense...the modification of the area by man and its appropriation to his uses are of dominant importance. The area before the introduction of a man’s activity is represented by one body of morphologic facts. The forms that man has introduced are another set.” John Leighly, ed., *Land and Life: A Selection from the Writings of Carl Ortwin Sauer* (Berkeley: University of California Press, 1969), 333. For a discussion of the roles of non-human animals in colonizing a landscape see Anderson, *Creatures of Empire*.

Blooded horses, the nineteenth-century term for thoroughbreds, differed from other livestock, even show cattle, in important ways.<sup>10</sup> Because of the way horses eat, the animals almost dictate that owners keep large plots and that they maintain them. Kept in pastures, horses will overgraze and eventually ruin the lot.<sup>11</sup> To keep their prized racehorses, Kentucky stock raisers needed to accumulate, enclose, and maintain large properties. The result was a Bluegrass Region dominated by planter-class breeders.

How can we narrate such a landscape? What stories exist beneath the Bluegrass? Like every place, Kentucky's Bluegrass is full of meaning. Powerful people made the Bluegrass into a thoroughbred landscape. Limestone that formed hundreds of millions of years ago made the region's soil calcareous. The Eurasian grass that came along on trans-Atlantic voyages took root in Kentucky. Horses raised on calcium-rich grass developed stronger bones than horses raised elsewhere. The way horses ate dictated that breeders acquire and enclose large tracts of land. That brought in a planter class committed to the institution of slavery. I start by looking to the geologic history of the Bluegrass Region to account for the high calcium content of Bluegrass soil. I examine the evolution of grassland ecosystems and then how horses' biology complemented and constructed grassland ecology. Finally, I examine how Euro-American settlers to Kentucky interacted with this material history to turn the Bluegrass into a thoroughbred landscape. Stephen Aron argues that the development of Kentucky into a planter economy foreclosed the possibility of free and open western lands.<sup>12</sup> I build on his analysis by bringing horses into the story of the lost promise of the West. By

---

<sup>10</sup> For a discussion of the natural history of the horse, see Stephen Budiansky, *The Nature of Horses*.

<sup>11</sup> Rebecca C. Bott, Elizabeth A. Greene, Katherine Koch, Krishona L. Martinson, Paul D. Siciliano, Carey Williams, Nathalie L. Trottier, Amy Burk, Ann Swinker, "Production and Environmental Implications of Equine Grazing" *Journal of Equine Veterinary Science* 33 (2013), 1038.

<sup>12</sup> Aron, *How the West Was Lost*, 4

thinking about the interaction between thoroughbreds, limestone deposits and deep time, equine digestion, and the planter class, I read Kentucky's landscape and add a layer of contingency to the history of Kentucky writing a new "politics of grass."<sup>13</sup> Lexington as we know it today owes its existence to geologic accident, grasslands ecology, equine evolution, and political economy.<sup>14</sup> But at the end of the day it's a story about belonging someplace.

Kentucky's Bluegrass Region contains approximately 8,000 square miles of gently rolling hills in the north-central part of the state. The Knobs region, known for the eroded remnants of the mountains which give the area its name, forms an arc in the center of Kentucky that serves as the southern boundary of the Bluegrass. To the north, the Bluegrass meets the Ohio River, and the Cumberland Plateau flanks the east. Almost everywhere forests have yielded to cultivation and pasturage, but some isolated wooded areas remain, especially, as a Work Progress Administration writer declared, "around the more pretentious manors." The rolling topography allows for uncultivated glens and dells along streams.<sup>15</sup> Geographers further divide the Bluegrass into three areas, identified by their underlying Ordovician limestone. The inner Bluegrass, the Eden shale belt, and the outer Bluegrass, as the sub-regions are called, differ from one another by soil fertility. The inner Bluegrass covers about 2,400 square miles and has the richest soil, infused by phosphates from the underlying limestone.

---

<sup>13</sup> Pekka Hämäläinen, "The Politics of Grass: European Expansion, Ecological Change, and Indigenous Power in the Southwest Borderlands" *The William and Mary Quarterly* 67, no. 2 (2010). See also, Mark Fiege, "The Weedy West" *Western Historical Quarterly* 36, no. 1 (2005).

<sup>14</sup> I owe a lot to Thomas Andrews's conception of "worksapes" in Thomas Andrews, *Killing for Coal: America's Deadliest Labor War* (Cambridge, MA: Harvard University Press, 2008), 125. On reading landscapes see Cronon, *Changes in the Land*; D.W. Meinig, ed., *The Interpretation of Ordinary Landscapes: Geographical Essays* (New York: Oxford University Press, 1979).

<sup>15</sup> Federal Writers' Project, *Kentucky*, 7-10.

Erosion of this bedrock creates the region's defining topographical feature: its rolling hills. The Eden shale surrounds the inner Bluegrass, covering an area slightly larger than the inner Bluegrass. The limestone in this area is not as rich in phosphorous and has high shale and silica content. The soil, generally, is good for crops and pasturage, but it erodes rapidly creating V-shaped valleys and steeper slopes than those in the inner Bluegrass. The outer Bluegrass shares the same characteristics as the inner Bluegrass with fewer nutrients.<sup>16</sup>



Figure 2, Physiographic Diagram of Kentucky, United States Geological Survey

Between 485 and 443 million of years ago, during the Ordovician Period, an ancient ocean covered what is now Kentucky. Sponges, corals, sea lilies, cephalopods, gastropods, bivalves, and trilobites lived in the waters. The skeletal fragments of these organisms mixed with other sediments to form the veins of limestone underneath the Kentucky soil. Ordovician deposits are co-extensive with the Bluegrass region. Limestone is a water-soluble sedimentary rock with high concentrations of calcite and aragonite, crystalline forms of carbonate. Over extended periods, water eroded the limestone and created karst landscapes,

<sup>16</sup> Ibid., 10.

areas distinguished by their underground drainage, sinkholes, and caves. In the Bluegrass region, the Kentucky River and the Dix River cut gorges, and erosion from draining water created a landscape of gently rolling hills with occasional caverns and sinkholes. By the Tertiary period, the waters had receded, but an enlarged Gulf of Mexico still abutted what became the state's Purchase region. Contemporary flora appeared at this time, as did some of the megafauna: the giant sloths, giant wolves, and other large species forgotten to time. As the glaciers that covered North America receded north, they left a sandy wash behind near the Ohio River. Mastodons and mammoths died in the heat.<sup>17</sup>

The depeopling of the Ohio Valley began in the 1670s and 1680s when Iroquois warriors invaded the region. European colonization led to a population collapse in the Iroquois Confederation. To control the hunting grounds of central Kentucky—where Thomas Walker's party shot a small menagerie—the Iroquois invaded and forced the Shawnee to abandon their towns. The Shawnees moved in small bands into Alabama, Georgia, the Carolinas, and Pennsylvania. Iroquois control of the region declined, and during the first half of the eighteenth century, several hundred Shawnee trickled back into the Ohio country. A combination of geologic forces, depopulation, and indigenous wildlife management techniques resulted in a landscape of broad meadows and rolling hills thick with game. Crossing the Cumberland Mountains, Anglo-American adventurers like Daniel Boone stumbled onto what amounted to a Native American hunting preserve.<sup>18</sup>

When nineteenth-century horsemen tried to account for regional differences in performance between their horses, “mining, paleontological wonders, the formation of coal

---

<sup>17</sup> Ibid., 24-27.

<sup>18</sup> Aron, *How the West Was Lost*, 6-7.

beds, ...and the nature of soils” moved people’s attention from climatological explanations downward to the land. A subscriber to the *American Turf Register*, who signed his missive as Curiosus, examined the effect of soil on three “objects” that gave him pleasure: racehorses, roses, and pretty women. “Long before any suspicion arose as to their cause,” Curiosus wrote, “remarkable differences were observed in horses raised...on different soils.”

Inquisitive horsemen with access to microscopes could see differences in the bones, tendons, and muscle fibers of horses raised in different regions. They generally ascribed such variation to changes in climate and food, but some horsemen postulated that food derived its essential quality from the soil. The “countries of calcareous formation” had more grasses suitable for raising livestock, and those grasses differed in texture from non-calcareous regions.

According to Curiosus, calcium-rich soil produced worse horses, less fragrant roses, and uglier women. Passionate though they were, Curiosus’s opinions represented a heterodox belief in race horse racing circles.<sup>19</sup> His passionate defense of the sandy soils of the eastern seaboard, probably convinced few readers, but today we can read Curiosus’s letter as suggesting a burgeoning geological awareness.<sup>20</sup> By the nineteenth century, amateur farmers used geological terms to describe their land. In the nineteenth-century imaginary geology played a role in belonging.

Kentucky’s famed soils invariably refer to farmland or pasturage, but when Europeans first decided to invade and occupy the region, thick and intractable canebrakes dominated the bottomlands, those areas most accessible to newcomers. The brakes, which could get as tall

---

<sup>19</sup> Curiosus, “Race Horses, Roses, and Pretty Women,” *American Turf Register*, November 1, 1839, 611-15.

<sup>20</sup> For an overview of the history of geology, see Peter J. Bowler, *The Earth Encompassed: A History of the Environmental Sciences* (New York: W.W. Norton & Company, 2000).

as fifteen feet high, would've stopped western development had it not been for what scientists call secondary ecological succession. When an area's vegetation is destroyed but its soil remains uncorrupted, the destruction of vegetation sometimes allows new species to crowd into the area, perhaps even replacing the original ones. When the "cow, plow, fire, and axe" of European colonizers destroyed the intractable canebrakes of Kentucky, one species dominated the succession: bluegrass. To both Donald Worster and Aldo Leopold, the succession of bluegrass provided the motivation for Americans to pour into the territory and dominate French, English, and Indian claims to the region.<sup>21</sup>

Livestock thrived on the new plants. Grasslands have been around for roughly 30 million years, and over that time grassland plants coevolved with grazing animals shaping growth-forms, chemical compositions, and patterns of reproduction in the plants. While grasses appear in the fossil record from the Cretaceous period (145.5-65.5 million years ago), the most successful families of temperate and tropical grasses began to dominate the landscape only during the Tertiary period (65.5-2 million years ago). Grasslands succeed in low latitude areas receiving less than 300 mm of annual rainfall. More than 1,500 mm of rain suggests that woody vegetation, not grass, would become dominant. A balance between herbaceous and woody plants appears between the limits of 300 and 1,500 mm of annual rain.<sup>22</sup> Lexington, in Fayette County, Kentucky, receives approximately 1150 mm rain annually putting it within the range for mixed landscapes.<sup>23</sup>

---

<sup>21</sup> Donald Worster, "Transformations of the Earth: Toward an Agroecological Perspective in History" *Journal of American History* 76, no. 4 (Mar 1990), 1087-88; Aldo Leopold, *A Sand County Almanac: And Sketches Here and There* (New York: Oxford University Press, 1949), 172.

<sup>22</sup> Duncan, *Horses and Grasses*, vii, 3.

<sup>23</sup> "Climate Lexington – Kentucky" U.S. Climate Data, accessed 19 Dec 2016, <http://www.usclimatedata.com/climate/lexington/kentucky/united-states/usky1079>.

Although people moved blooded horses into Kentucky in the eighteenth century, still by the 1820s agriculturalists considered Kentucky more important as a producer of hemp and tobacco. The *American Farmer*, the nation's first agricultural magazine, published monthly prices of tobacco in different international markets giving Kentucky's farmers access to information relevant to their industry.<sup>24</sup> Farmers still kept animals, and on those farms, they experimented with different grasses to feed their stock. Travelers extolled the virtues of bringing exotic grasses back to Kentucky. Abner Green, who obtained some Guinea grass seed from a traveler to New Orleans, planted "for two or three years" the "luxuriant" Guinea grass. Green fed "from thirty to forty or fifty" animals per day throughout the summer on two acres of grass. Farmers preferred Guinea grass to Fiorin and Lucerne grasses, because of its higher yields and small cultivation requirements.<sup>25</sup> Joseph B. Oglesby of Jefferson County Kentucky estimated that from a lot "somewhat less than a quarter of an acre" of Guinea grass, he could feed six or eight horses. The grass yielded more fodder than timothy or clover, and his animals were "remarkably fond of it both green and dry."<sup>26</sup>

Despite its name, Kentucky bluegrass did not originate in Kentucky. It's not even from North America. Agronomists think the plant originated in the northern latitudes of Eurasia. Linnaeus gave bluegrass the binomial name *Poa pratensis* by combining *poa*, the Greek word for fodder, with *pratensis*, a Latin word meaning of the meadow. The name suggests the wide natural distribution of bluegrass in the European world. Pastoralists in the

---

<sup>24</sup> "Present Prices of Maryland Produce in the Baltimore Market" *American Farmer* April 30, 1819, 59.

<sup>25</sup> "Guinea Grass," *American Farmer* August 20, 1819, 163-64.

<sup>26</sup> "October 15, 1812," *American Farmer* August 20, 1819, 165.

British Isles fed their livestock on bluegrass for centuries. With proper maintenance the grass would produce hay for cattle in June and provide an attractive lawn grass year-round.<sup>27</sup>

The popularity of Kentucky bluegrass allowed the grass to hitch a ride across the Atlantic in seed mixtures, hay, and bedding during European colonization in the mid-1600s. Bluegrass didn't remain an accidental cultivar too long; pastoralists in North America coveted the European fodder. Thomas Jefferson reportedly planted the turf at Monticello, and from there, the grass spread like the weed it was. By 1847, bluegrass pastures appeared in Western New York, and by the early 1900s, agronomists considered Kentucky bluegrass the "most important pasture grass in North America." An astounding testament to bluegrass's invasive capabilities, an agronomist estimated that up to 90 per cent of Kentucky bluegrass pastures began as "'spontaneous' events." Farmers kept the invasive plant around when they realized its usefulness. It maintained growth early in the spring and late in the fall and could produce foliage nearly two feet in length.<sup>28</sup> These qualities made the grass popular for those raising horses.

In addition to its economic value, bluegrass has physical characteristics that helped it take root around the world. The bluegrass genus *Poa* includes counts more than 500 species adapted to climates in temperate, boreal, and polar regions. It is the largest genus of the grass family, *Poaceae*. Between species, bluegrasses display a wide range of biological diversity particularly in reproductive biology. Most species develop hermaphroditic flowers for reproduction. At the base of their florets, bluegrasses grow cottony hairs, which botanists

---

<sup>27</sup> Edward S. DeKeyser, Lauren A. Dennhardt, and John Hendrickson, "Kentucky Bluegrass (*Poa pratensis*) Invasion in the Northern Great Plains: A Story of Rapid Dominance in an Endangered Ecosystem" *Invasive Plant Science and Management* 8, no. 3 (2015), 255.

<sup>28</sup> *Ibid.*, 255-56.

think might be an effective seed dispersal mechanism that accounts for *Poa*'s worldwide coverage. Other scientists point to bluegrass's asexual form of reproduction to account for its wide distribution. In natural grassland systems, Kentucky bluegrass will become dominant, aided by its "true-to-type" breeding.<sup>29</sup>

Henry Clay saw the colonizing traits in bluegrass when he settled in Kentucky. A young lawyer when he moved west, Clay saw only "small patches" of bluegrass clustered around salt-licks. He deduced that animals must have carried seeds to the salt licks on their fur or in their stomachs. While Clay noticed bluegrass spreading spontaneously, he attributed the real growth in bluegrass to human agency. "As the Country opened and improved," Clay wrote, settlers recognized the economic value of bluegrass and it spread "by being sown." Clay cultivated the grass at Ashland. By late August he expected some of his pastures to be knee-high with bluegrass, which he would turn to hay for the winter. Clay owed some of his enthusiasm for bluegrass to the reproductive qualities described by botanists. The grass "scarcely ever requires renewal," enthused Clay, who believed that "nothing can be finer for young stock." During the nineteenth century Clay put out his ever-increasing string of thoroughbreds to bluegrass pastures.<sup>30</sup> The nutritious weed increased calls to raise blooded horses in the region.

During the nineteenth century, several factors pulled people west of the Alleghenies. Internal improvements in Kentucky, like canal projects and the National Road, promised economic opportunity for those willing to make the trek. Such internal improvements called "intelligent

---

<sup>29</sup> David R. Huff, "Bluegrasses," in Beat Boller, Ulrich K. Posselt, and Fabio Veronesi, eds., *Fodder Crops and Amenity Grasses* (New York: Springer, 2010), 345-52.

<sup>30</sup> Letter from Henry Clay to L.F. Allen, 21 Aug 1838, Henry Clay Papers, Manuscript Department, William R. Perkins Library, Duke University, Durham, N.C. quoted in G.S. Dunbar, "Henry Clay on Kentucky Bluegrass, 1838" *Agricultural History* 51, no. 3 (1977), 522.

and enterprising citizens” to Kentucky. In 1820, the *American Farmer*, the foremost agricultural journal in the United States, estimated that with its completion the Erie Canal would carry half Kentucky’s produce to New York City. In 1818, the state produced 25,000 hogsheads of tobacco and 100,000 barrels of flour.<sup>31</sup> Internal improvements hastened migration and encouraged the incursion into western lands. The transformation of the Kentucky landscape warranted special mention among western boosters. By the 1820s, the *American Farmer* considered Kentucky the exemplar of westward expansion. “Where the Transylvania University now stands [in Lexington], or near it,” the magazine exclaimed, “there ranged in 1775, herds of thousands of buffaloes.” That hundreds of students of the “languages and sciences” made their homes where buffalo once roamed suggested the progress and promise of the West.<sup>32</sup>

Another way nineteenth-century Americans marked the westward march of civilization was counting the number of blooded horses. Of the places where the “taste and public spirit of the people, accident, [or] the force of circumstances,” led people to fancy well-bred horses, Virginia, the Carolinas, and Kentucky outpaced New York and New Jersey. Settlers brought thoroughbreds west of the Alleghenies when Kentucky was still a part of Virginia. Early Kentuckians like Hubbard Taylor, Abraham Buford, and John Breckinridge owned large racing stables in the late eighteenth- and early-nineteenth centuries. Horses from Europe and the eastern states “found their most profitable market” in Kentucky. Aided by

---

<sup>31</sup> “Ohio Turnpike & Canals,” *American Farmer*, September 1, 1820, 181-82.

<sup>32</sup> “Untitled,” *American Farmer*, March 7, 1823, 399.

“exuberant soil and fine climate,” Kentuckians transformed their state into Virginia’s rival for the title of thoroughbred capital of the United States.<sup>33</sup>

Raising horses stresses the land and changes its ecological composition. In 2010, the USDA estimated that a horse raised on pasture for half the year required roughly 2.25-4 acres of pasture land depending on its forage productivity. Livestock managers first calculated the average forage production nationwide. Then they assumed horses ate 3 per cent of their body weight per day over 180 days. Over six months, the average horse consumes nearly 6,000 pounds dry matter. Stocking density affects the forage composition and how quickly horses deplete the pasture. Horse owners tend to overstock their pastures, and as horses compete for limited forage resources in overstocked pastures, they eat less selectively and reduce overall forage cover. Coupled with soil compression, overgrazing leads to erosion and pasture loss that could be irreparable.<sup>34</sup> With all the potential damage to farmland, people raising horses needed a lot of land to keep their two major investments, land and horses, healthy.

The introduction of horses to the Bluegrass changed the landscape. The most important species to determine grassland or woodland composition are the “bulldozer” species. These “mega herbivores” preserve grasslands by breaking and eating shrubs and trees. Smaller species of browsers and grazers also limit the expansion of woodlands by eating seedlings. Ungulate populations can consume large proportions of an area’s herbaceous plant production, because their digestive systems contain symbiotic microorganisms capable of digesting cellulose. Ungulates divide into two categories: ruminant and hindgut

---

<sup>33</sup> “The *Blood-Horse* in Kentucky,” *American Turf Register*, December 1829, 170-72.

<sup>34</sup> Bott, et al., “Production and Environmental Implications of Equine Grazing,” 1039.

fermenters.<sup>35</sup> Livestock animals like cattle, goats, and sheep are ruminants. They obtain nutrients from plant-based food by fermenting it in a specialized stomach prior to digestion. The process usually requires that the fermented ingesta (cud) be regurgitated and chewed again, hence the suborder's name which derives from the Latin verb *ruminare*, to chew again. Horses by comparison are hindgut fermenters. They have only one stomach. While this makes their digestion of plant-based food less efficient, it allows horses to survive on marginal lands that might not support bovines.

Despite their inefficient digestive systems, equids tend to be effective at extracting nutrients from forage. This is due in part to their high intake rates. The feeding time of equids is higher than other ungulates. Undisturbed and free-ranging equids feed more or less constantly over 59-69 per cent of the day (14-16½ hours). Pregnant and lactating mares feed slightly more (8-9.8 per cent) than the rest of the herd. While horses spend up to two-thirds of the day grazing, they sleep only 3.8 hours per day. During the remaining four or so hours, horses perform other essential activities such as resting, moving, and being vigilant. A study of unmanaged horses in France found the median length of the interval between meals for a horse was 45 minutes. Ninety percent of the intervals lasted less than two hours. This helps horses maintain a high level of gut fill, a characteristic horses share with other species with fast throughput times.<sup>36</sup>

Depending on the geographic region, pastures may provide year-round ground cover that can meet all of a horse's nutrition requirements. Horse pastures consist of warm-season and cool-season grasses and legumes. Horses prefer white clover and alfalfa to red clover.

---

<sup>35</sup> Duncan, *Horses and Grasses*, 3-7.

<sup>36</sup> *Ibid.*, 98, 101-07, 111.

Horses choose grasses based on species, morphology, and maturity, but factors such as cleanliness and whether turf has been mowed seem to matter to horses too. Managed pastures follow one of two basic grazing systems: continuous or rotational grazing. Under continuous grazing, managers allow animals to graze in one pasture without resting periods. Rotational grazing allows time for grasses to regrow. Farmers move their livestock between pastures to maximize forage production. Between grazing periods, managers generally allow grasses to grow between 15 and 20 centimeters before mowing, fertilizing, and harrowing their pastures to prepare for horses to return. Rotational grazing is more healthful for pastures. It increases pasture productivity, nutritive content, and digestibility. But rotational grazing requires greater areas of land, since entire pastures lay fallow between grazing. Continuous grazing requires less land, but creates more problems for the landscape, farmer, and animal. Keeping horses in just one pasture leads to underutilization of forage. Selectively grazing horses will prefer to return to younger plants leaving older more mature plants alone.<sup>37</sup>

The homesteading practices in Kentucky allowed settlers to amass estates large enough to make raising thoroughbreds feasible. As the sons of the Virginia gentry surged across the Alleghenies and into Kentucky beginning in the late eighteenth century, they descended on the Bluegrass Region, bringing with them the legacies of Virginia: slavery and gentry traditions. They divided the land into large estates, often taking land in exchange for service in the French and Indian War and the Revolutionary War. A list of “Some Residents of Virginia and Other ‘Persons Chargeable with Tax’ in Kentucky Counties, 1794-94”

---

<sup>37</sup> Bott, et al., “Production and Environmental Implications of Equine Grazing,” 1035-38.

included 19 Virginians who owned at least 1,000 acres in Kentucky.<sup>38</sup> Robert Carter Harrison, brother of Benjamin Harrison V, signer of the Declaration of Independence and Governor of Virginia, moved to Kentucky in 1804. He purchased 1900 acres, and according to the 1810 census, Harrison owned 80 slaves, the most in his county. Harrison raised “quality livestock” and operated a mill on North Elkhorn Creek. Upon his death in 1841, Harrison’s family divided the 1900-acre estate known as Elk Hill among his nine children.<sup>39</sup>

Despite their ability to drastically alter landscapes, horses couldn’t have turned Kentucky’s Bluegrass Region into a thoroughbred landscape without the help of their human custodians. As we have seen before European incursion, Kentucky had neither horses nor Bluegrass. Both species needed Europeans to bring them there. But only Bluegrass gave Kentucky its nickname. The limestone-rich soil of the Bluegrass region contains phosphorous, lime, and other minerals that make it an ideal location for pasturing livestock. Early settlers brought horses to Kentucky by river on flatboats. Once residents of the region realized the advantages of Bluegrass soil, they shipped in blooded horses from eastern states and Europe. Daniel Boone brought a resolution before the Virginia Legislature in 1775 to improve the breed of horses in Kentucky County, which was still part of Virginia. By 1788, only six months after its first publication, the *Kentucky Gazette* printed advertisements for stallion services.<sup>40</sup>

---

<sup>38</sup> “Some Residents of Virginia and Other ‘Persons Chargeable with Tax’ in Kentucky Counties, 1794-95” Mary Wharton Collection 1997ms138 Box 38 folder 6 Horse Industry, History of Castleton Farm, 1978 University of Kentucky Special Collections.

<sup>39</sup> Mary Wharton Collection 1997ms138 Box 37 folder 5 Literary Works, The Horse World of the Bluegrass, Research Notes and Maps Undated, University of Kentucky Special Collections.

<sup>40</sup> Federal Writers’ Project, *Kentucky*, 53, 94.

By the end of the eighteenth century, Virginia's Tidewater was in crisis. Cultivating tobacco depleted the soil, and families having too many sons shrunk inheritances. Unable to maintain their lavish lifestyles, the Virginia gentry looked around for someplace to recreate their world. Fresh soil and private property west of the Alleghenies pulled Tidewater gentlemen into the Bluegrass where the sons of Virginia grandees worked to restore their family fortunes, but as historian Stephen Aron noted, "the world of Henry Clay was not simply a duplication of the world of George Washington and Thomas Jefferson." In Lexington, the hub of the Bluegrass, commerce developed on a scale unseen in the Virginia Tidewater. A city of merchants and lawyers as well as planters, Lexington earned the moniker "the greatest inland city of the western world," and boosters and bankers took to calling Lexington the Philadelphia of the West.<sup>41</sup>

Despite the differences between the Tidewater and the Bluegrass, the wealthy in Kentucky organized western lands on the Tidewater model. They created a vision of the region in which elegant mansions with formal gardens sat among bluegrass pastures. Imported horses and cattle grazed on the rolling limestone hills. Botanist François André Michaux, son of the French botanist and royal collector André Michaux, wrote that "[e]verything announced the opulence" of the Bluegrass gentlefolk: in fashion, speech, and culture, the Bluegrass elites aped Tidewater traditions. Kentuckians tried to import the social organization of the British aristocracy to the Bluegrass. They used ostentation—brick mansions, blooded livestock—to justify the social hierarchy. Some Bluegrass brahmins even turned portions of their estates into private hunting grounds drawing coveted comparisons with the British countryside. Like in Virginia, sociability dominated upper class culture.

---

<sup>41</sup> Aron, *How the West Was Lost*, 124.

According to Bluegrass matriarch Margaretta Brown, “The profusion and display at our entertainments has ever been a matter of astonishment to strangers. For fear of being thought mean...we could not invite a friend to dinner, but the table must groan with costly piles of food.”<sup>42</sup>

Movement westward into Kentucky placed pressure on the land and resources beyond the Alleghenies and fueled a speculative market for land. The “temperate climate and most fertile soil” of the Bluegrass region brought investors from the east. The market reinvented the land from the eighteenth to the nineteenth century “uniting improvement and cultivation.” Land use patterns changed from cotton to grain, from grain to hemp, and from hemp to grazing. Farmers and breeders in the Bluegrass found “a soil rich and inexhaustible” to raise their animals on. Settlers interpreted the geological accident of limestone-rich soil as an imperative toward breeding which promised the “potentiality of becoming rich, even beyond the dreams of avarice.” Rumors of breeders earning upwards of \$60,000 on the stud fees of fifteen stallions made raising thoroughbreds an attractive proposition in the Bluegrass. The “numerous turfs” opened by jockey clubs throughout the Mississippi Valley assured breeders of a “permanent demand” for their stock. The *American Turf Register* published treatises instructing new breeders on the economics of breeding. The magazine advised readers to purchase “two well bred mares, of racing stock” and to breed them annually to the “best horse within reach.” Novice breeders could employ breeding mares for agricultural work, a development that granted farmers entry to bloodstock breeding while scarcely costing them one cent. Promises of success propelled a speculative land market in the new western states.<sup>43</sup>

---

<sup>42</sup> Margaretta Brown to Orlando Brown, July 7, 1819 quoted in Aron, *How the West Was Lost*, 126.

<sup>43</sup> “On Breeding for the Turf” *American Turf Record*, July 11, 1836, 482-85.

Being in Kentucky proved advantageous for horsemen. Owners from Virginia would sell half shares of their horses to “some gentleman” in Kentucky “who would see that he was well taken care of.” The division of horses into shares highlights the profitability already inherent in thoroughbred horses by the nineteenth century. Such an investment, brokers assured their clients could probably generate enough income through stud fees to pay for the sale in the first year.<sup>44</sup>

Kentucky made promoting the thoroughbred industry an official part of the state’s business. It possessed at least three sanctioned and measured tracks in 1829.<sup>45</sup> In addition to providing the infrastructure to support racing, Kentucky passed laws to encourage breeding thoroughbreds. All people keeping stallions or jacks for public use in Kentucky paid the state an annual tax equal to the sum charged for services to a single mare. The tax averaged \$40 and received broad support from those interested in improving the breed. Nobody, the logic went, would bear the expense of keeping a stallion that could not, “by his blood and figure,” attract paying customers. The *American Turf Register* supported the law, and found it superior to laws “suppressing billiard tables” which only served to drive amusement seekers “into cellars and dark corners.”<sup>46</sup>

The Kentucky Association for the Improvement of the Breeds of Stock formed in 1826. By 1828, the group built a track in Lexington. The organization promoted breeding and racing thoroughbreds through a variety of means. The Association sold shares for \$50 per share. Shares paid dividends of six percent a year, and surplus funds paid for advertising,

---

<sup>44</sup> E[dwin Upshur] Berryman to H. Clay, New York, Oct 5, 1831, Papers of Josephine Clay 2005M01, Box 1, item 6 University of Kentucky Special Collections.

<sup>45</sup> “Measure of the Kentucky Race Courses” *American Turf Register*, November 3, 1829, 162.

<sup>46</sup> “A Good Law” *American Turf Register*, June 10, 1832, 532.

purses, and capital improvements on the racetrack owned by the Association under title vested in seven trustees. Members of the Kentucky Association selected trustees, who also managed the group's finances, through votes apportioned based on number of shares owned.<sup>47</sup>

To promote the sale of thoroughbred bloodstock, the Kentucky Association held one fair annually on the grounds of the Association track. Subscribers appointed a Superintendent of Fairs who oversaw the two, three-member committees dedicated to financing the production of and premiums for the fair.<sup>48</sup> Members of the Association deemed its annual stock fair an important part of the group's mission to promote thoroughbred racing and breeding, and they allowed the stock fair department to assume debts and levied additional fees on members to preserve the fairs. The Association opened a subscription recruiting at least fifty members to pledge five dollars annually for five years.<sup>49</sup> The Kentucky Association even explored bringing thoroughbreds to Cuba to "open a market for inferior racing stock." The Association abandoned the venture. The island's "despotic government" proved too difficult and the voyage there too costly and dangerous to allow for profit.<sup>50</sup>

The success of the Kentucky Association in its early years allowed the organization to spread its largesse. Two years after its founding, the organization purchased a "suitable seite

---

<sup>47</sup> "We the Subscribers..." nd Kentucky Association for the Improvement of Breeds of Stock Records 58M17 Box1 Folder4 correspondence and records, 1839 University of Kentucky Special Collections.

<sup>48</sup> "Kentucky Association Stock Fair Rules and Regulations for the Government of the Fairs" Kentucky Association for the Improvement of Breeds of Stock Records 58M17 Box 1 Folder 4 Correspondence and records, 1839

<sup>49</sup> "Whereas a very general..." Kentucky Association for the Improvement of Breeds of Stock Records 58M17 Box 1 Folder 4 Correspondence and records, 1839.

<sup>50</sup> Y.N. Oliver to Joseph R. McGowan Feb 18, 1843, Kentucky Association for the Improvement of Breeds of Stock Records 58M17 Box 1 Folder 8 Correspondence Regarding Race Entries January-May 1843.

for the exhibition and sale of various stock” and the “trial of speed and bottom of our horses.”<sup>51</sup> At the track, they raised money for purses at their bi-annual race meetings. Subscribers pledged money to “aid the offices of [the Kentucky Association] to give good purses” at their meetings. These pledge drives often contributed several hundred dollars toward prizes.<sup>52</sup> By 1839, the Kentucky Association raised money to bail out organizations with overlapping missions. When the stock department of the state fair found itself indebted and unable to “sustain the charges” necessary to continue operation the Kentucky Association “immediately” opened a subscription to help out. Subscribers pledged five dollars annually for five years in exchange for the “privilege of entering their stock and passing into any part of the showground...free of charge.” The Association anticipated at least 50 members would subscribe.<sup>53</sup>

Like the Jockey Club in the United Kingdom, the Kentucky Association created and enforced rules governing thoroughbred racing in Kentucky. While most of the Association’s rules dealt with issues on the turf—identifying horses, nominating judges, collecting entry fees—they also enforced Southern mores. Rule 46, for instance, barred “Negro[es] or Mullatto[es]” from nominating horses to run in stakes races.<sup>54</sup> The Association warned off the track racegoers who violated its propriety. Some, like T. Robert, received lifetime bans

---

<sup>51</sup> “We the Subscribers...” nd Kentucky Association for the Improvement of Breeds of Stock Records 58M17 Box1 Folder4 correspondence and records, 1839 University of Kentucky Special Collections.

<sup>52</sup> 20 May 1829 Kentucky Association for the Improvement of Breeds of Stock Records 58M17 Box 1 Folder 1 Payment Slips and Financial Papers, 1828-1835.

<sup>53</sup> “Whereas A Very General...” [nd] Kentucky Association for the Improvement of Breeds of Stock Records 58M17 Box 1 Folder 4 Correspondence and Records, 1839.

<sup>54</sup> “Substitute for the 42d Rule” Kentucky Association for the Improvement of Breeds of Stock Records 58M17 Box 2 Folder 1 Undated Papers.

for infractions like helping “ladies of disreputable character...out of their conveyance.”<sup>55</sup>

Drunk on whiskey, Robert most likely frequented the public stand where non-members gathered to revel. But the carnival atmosphere of the public stand vexed the stuffer members of the Association. Track authorities stopped men and women of “questionable character” at the gate and refused entry to women unless they were escorted by a “gentlemen known to the officers at the gate, or properly vouched for.”<sup>56</sup>

The Bluegrass vision promoted by the planter class rested on a hierarchical social structure that included wage laborers and slaves. Raising racehorses relied on large parcels of land and a system of workers and overseers. These created barriers to entry that obviated thoroughbred breeding for all but the wealthiest Bluegrass residents. In Woodford County, one in twelve householders owned more than 1,000 acres in the mid-1790s. By 1810 only one in twenty-two households had that much land, and by 1825 that number declined to one in forty-two. While slave owners comprised a majority of householders in 1825, only a few Kentuckians would ever achieve planter status, a distinction commonly reserved for slaveholders with more than twenty slaves.<sup>57</sup>

*Ohi:yó*, literally the “Good River” in Seneca, divided the Kentuckians’ world in two. To the north lay Illinois, Indiana, Ohio, Pennsylvania, and freedom. On the southern banks, there was Kentucky and what Henry Bibb considered the “grave yard of the mind.” Slaves in the northern part of Kentucky toiled at least six days a week. On Sundays, the Sabbath, they

---

<sup>55</sup> T. Robert to E.E. Eagle 20 May 1867 Kentucky Association for the Improvement of Breeds of Stock Records 58M17 Folder 3 Correspondence and meeting minutes 1860-[1869]undated.

<sup>56</sup> Kentucky Association Notice 4 May 1890 Kentucky Association for the Improvement of Breeds of Stock Records 58M17 Folder 9.

<sup>57</sup> Aron, *How the West Was Lost*, 127-28.

assembled in the woods to “gamble, fight, [and] get drunk.” Slave owners kept their chattel ignorant, and they could often be found in the woods among their slaves giving them whiskey and ordering them to wrestle, fight, and butt each other like sheep. Henry Bibb was born into bondage in Shelby County, the county between Frankfort and Louisville, in the spring of 1815. As he grew up, he’d stand on the river bluffs looking as far north as his eyes could see gazing “upon the blue sky of the free North.”<sup>58</sup>

Nowadays on Derby Day, when Kentuckians with mint juleps on their breath belt out their state song, “My Old Kentucky Home,” they probably substitute the word “people” for “darkies.” This change makes the song palatable, like a combination of bourbon, mint, and simple syrup, but it elides the song’s anti-slavery sentiment. In the first verse, the song’s unnamed narrator basks in Kentucky’s natural beauty. Birds “make music all the day” and “young folks roll on the little cabin floor.” We see this bucolic scene through the eyes of an enslaved laborer. While Stephen Foster’s description of slave life in Kentucky romanticizes the institution within the state, when “hard times comes a ‘knocking at the door,” the narrator’s owner sells him down the river ripping him away from his family and home. Nostalgia is all that’s left for the narrator, who can only “sing one song / For the old Kentucky home / For the old Kentucky home, far away.”<sup>59</sup> The song contains a powerful anti-slavery message, repeating the journey of Tom, the protagonist of Harriet Beecher Stowe’s novel *Uncle Tom’s Cabin*.

On Kentucky farms, slaves handled most of the labor related to horses. In *Uncle Tom’s Cabin*, Tom tells one of his new masters, “I’ve been allays used to horses...Mas’r

---

<sup>58</sup> Henry Bibb, *Narrative of the Life and Adventures of Henry Bibb an American Slave, Written by Himself* (1849: reprint np:The Floating Press, 2014), 20, 27, 32.

<sup>59</sup> Stephen Collins Foster, “My Old Kentucky Home.”

Shelby raised heaps of ‘em.”<sup>60</sup> George Henderson told Works Progress Administration interviewers “[s]ome [slaves] went to the stables to look after the horses and mules.”<sup>61</sup> Slaves even trained and raced horses on some thoroughbred farms. In Edward Troye’s 1864 portrait of Robert A. Alexander’s undefeated horse Asteroid we see three black men attending to the champion horse. Ansel Williamson, the celebrated slave-trainer, stands to the right of the frame preparing to saddle the horse. Williamson’s just-beginning to gray hair suggests both wisdom and a life in bondage. To the left, the famous jockey Edward D. Brown, also a slave, laces up a boot before mounting his ride. A third figure, also black, holds Asteroids reins. Troye depicts one of the most famous equine athletes of the 1860s worth tens of thousands of dollars, and there is not a white person in sight.<sup>62</sup>

---

<sup>60</sup> Harriet Beecher Stowe, *Uncle Tom’s Cabin; A Tale of Life Among the Lowly* (London: George Routledge & Co. 1852), 168.

<sup>61</sup> Federal Writer’s Project, 1936-1938, *Slave Narratives: A Folk History of Slavery in the United States from Interviews with Former Slaves*, vol. vii, Kentucky Narratives (Washington: Library of Congress, 1941), 5.

<sup>62</sup> Edward Troye, *The “Undefeated” Asteroid, with Ansel (His Trainer) and Brown Dick (Jockey)* 1864 28¼ x 38¾ in Paul Mellon Collection Virginia Museum of Fine Arts.



Figure 3: Edward Troye, *The Undefeated Asteroid*, oil on canvas, 28 1/4 x 38 3/4 in., Virginia Museum of Fine Art

Owners saw slaves skilled in horsemanship as complements to their valuable livestock. Historian Katherine C. Mooney argues that the Antebellum Turf was a site of negotiation between slavery and freedom where enslaved horsemen could earn degrees of freedom and even celebrity while slave holders attempted to carve out their particular vision of the world. So valuable were skilled slaves that planters considered purchasing shares of particular grooms and trainers just as they would a race horse. Turfmen, Mooney argues, tried to maintain a balance between recognizing slaves as men of skill and keeping them as objects of property. “Instead of quickly dismissing black horsemen as inferior or fretting over the implications of their privileges,” she writes, they cast them as organic extensions of white

men's will." Riding or training horses offered slaves a degree of autonomy, money, and celebrity; although, slave riders still had precarious and difficult lives.<sup>63</sup>

When it came to jockeys, owners even shaped their slaves' bodies to meet their will. Jockeys must be strong, light, and fearless, and owners devised methods for achieving these goals. At a South Carolina farm, a Jacob Stroyer learned to ride horses under the watch of an older slave whose job it was to beat the boy every time he fell from his mount. To stay light jockeys regularly wore five or six layers of heavy clothing and put in their road work, walking ten or twenty miles to sweat out excess weight. Some jockeys adopted more extreme methods that combined fasting with purgatives. When these measures came up short some slave owners adopted more extreme measures. A thoroughbred owner in Virginia buried his jockey up to the neck in manure, and a sporting magazine confirmed this practice advising readers that "Negro jockies are stunted and reduced by burying them three times a week (four hours at a time) in stable manure, up to their chins."<sup>64</sup>

The violation of slaves' bodily autonomy did not stop at beatings or weight maintenance. On Kentucky farms the WPA reported that "[o]nly the strong healthy slave women were allowed to have children, and often were not allowed to mate with their own husbands, but were bred like live stock to some male negro who was kept for that purpose because of his strong physique, which the master wished to reproduce, in order to get a good price for his progeny, just like horses."<sup>65</sup> In Kentucky, planters valued the reproductive power of their slaves. Young girls fetched high prices on the auction block, and some owners

---

<sup>63</sup> Mooney, *Race Horse Men*, 49.

<sup>64</sup> "To Correspondents," *Porter's Spirit of the Times*, May 28, 1859, 200, quoted in Mooney, *Race Horse Men*, 43-44.

<sup>65</sup> Federal Writers Project, *Slave Narratives*, 72.

kept slaves explicitly for breeding. The conditions of slave quarters reinforced the parallel between how slave owners treated both their human and animal property. Owners often gave their slaves little more than a shed with only straw to sleep on.<sup>66</sup>

Slaves came to the Bluegrass Region along with the earliest Euro-American explorers and settlers. They worked primarily in agriculture cultivating tobacco and hemp and tending to horses. As we might expect, the highest concentrations of slaves appeared in the most productive agricultural regions: the Bluegrass in the north-central and the Pennyroyal in the southwest parts of the state. Unlike states in the Cotton Belt, Kentucky's slave population never exceeded 24 per cent of the total population, but some counties had higher percentages than others.<sup>67</sup> The following maps, generated using Social Explorer, show the increase of the slave population in the Inner Bluegrass between 1790 and 1860.<sup>68</sup> In the 1790 Census, when Kentucky was counted as part of Virginia, five counties possessed lands within the Inner Bluegrass: Woodford, Bourbon, Fayette, Mercer, and Jefferson. While some of these counties share names with present counties, their borders differ. These four counties had a total population of 42,548 in 1790, and slaves accounted for 7,319, or 17 per cent, of that number.<sup>69</sup> By 1860 the number of slaves in the region increased to 38,726, or 39 per cent of

---

<sup>66</sup> Federal Writers Project, *Slave Narratives*, 74.

<sup>67</sup> Karl Raitz and Richard Schein, with Berle Clay and Nancy O'Malley, "Historical and Cultural Landscapes," 47-78 in Richard Ulack, Karl Raitz, and Gyula Pauer, eds., *Atlas of Kentucky* (Lexington, KY: University Press of Kentucky, 1998), 65.

<sup>68</sup> In generating these maps, I used the present boundaries of the seven counties that comprise the "Inner Bluegrass": Bourbon, Fayette, Franklin, Harrison, Jessamine, Scott, and Woodford. The boundaries of the counties change over time and include areas not included in the geographic definition of the Inner Bluegrass Region.

<sup>69</sup> 1790 U.S. census, Bourbon, Fayette, Franklin, Harrison, Jessamine, Scott, and Woodford, [www.socialexplorer.com](http://www.socialexplorer.com).

the total population. In Woodford County, the horse-rich area between Lexington and Frankfort, slaves constituted a majority in 1860.<sup>70</sup>

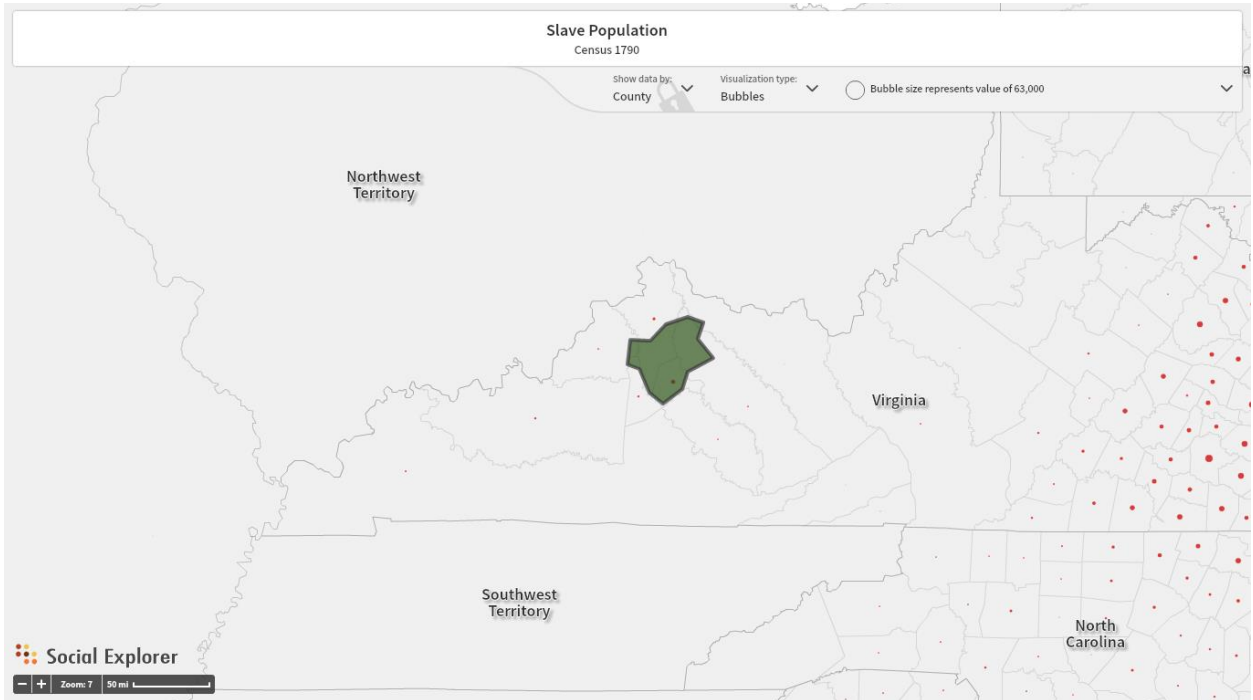


Figure 4: Inner Bluegrass Slave Population, 1790

<sup>70</sup> 1860 U.S. census, Bourbon, Fayette, Franklin, Harrison, Jessamine, Scott, and Woodford, [www.socialexplorer.com](http://www.socialexplorer.com).

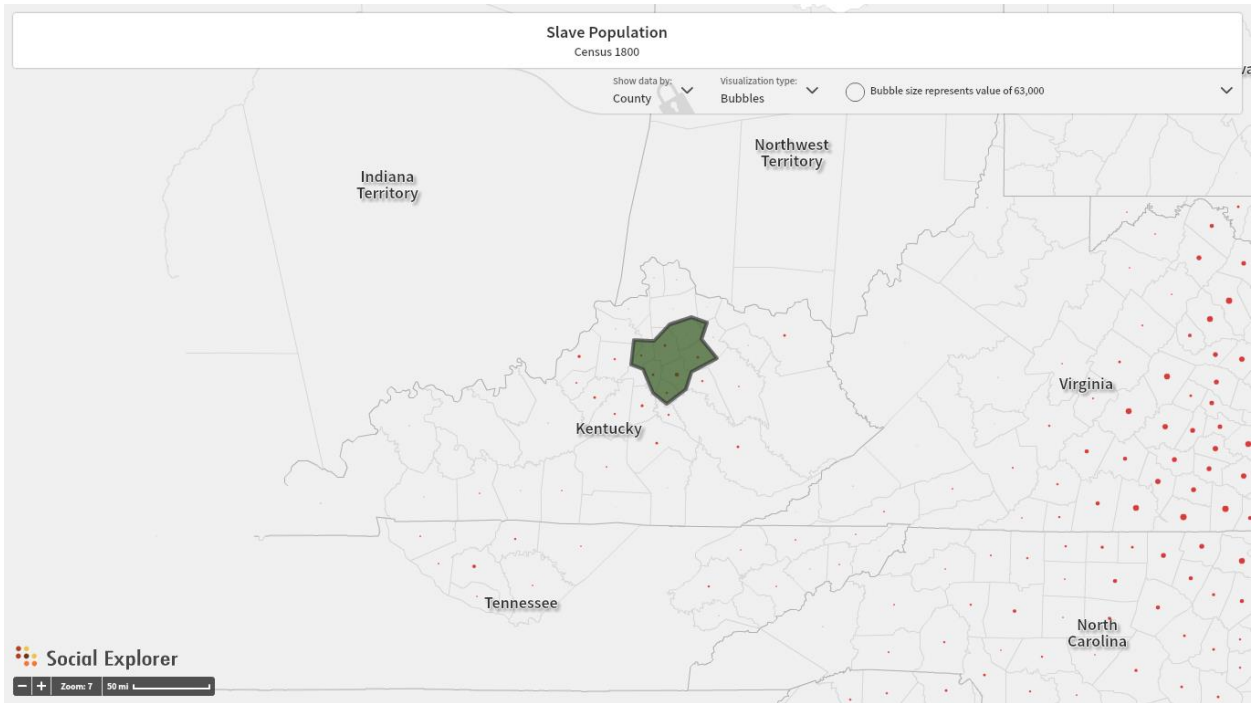


Figure 5: Inner Bluegrass Slave Population, 1800

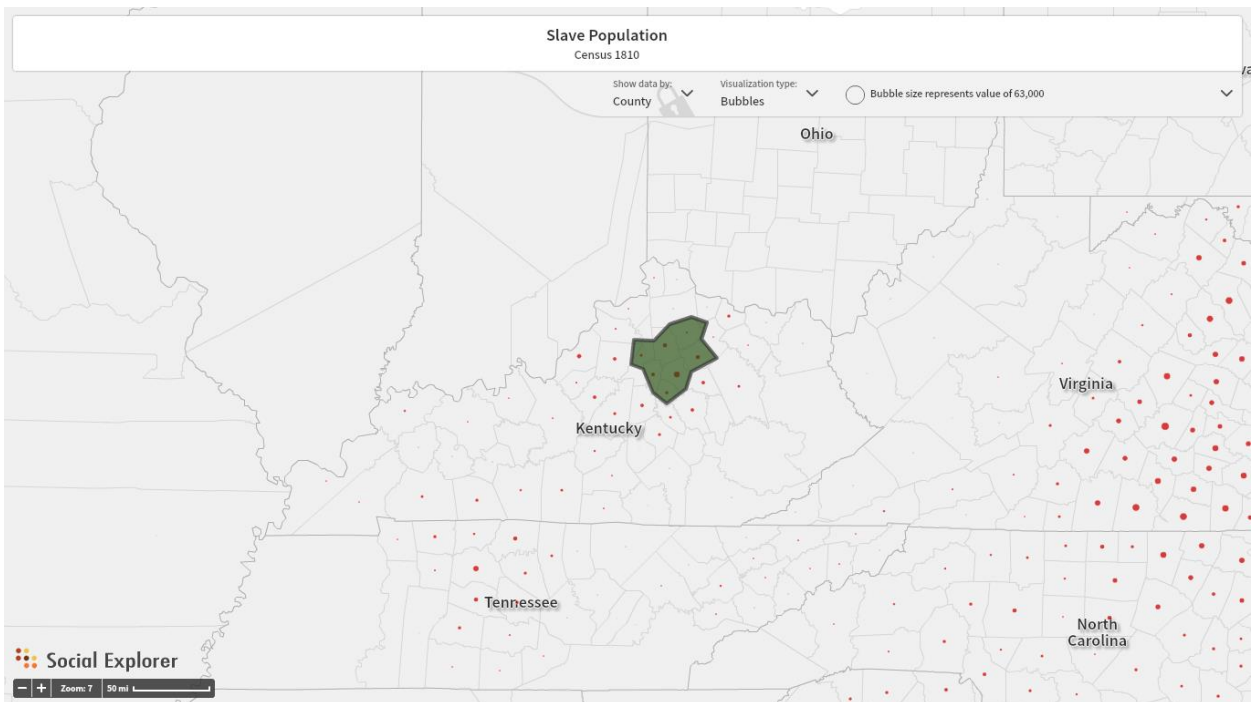


Figure 6: Inner Bluegrass Slave Population, 1810

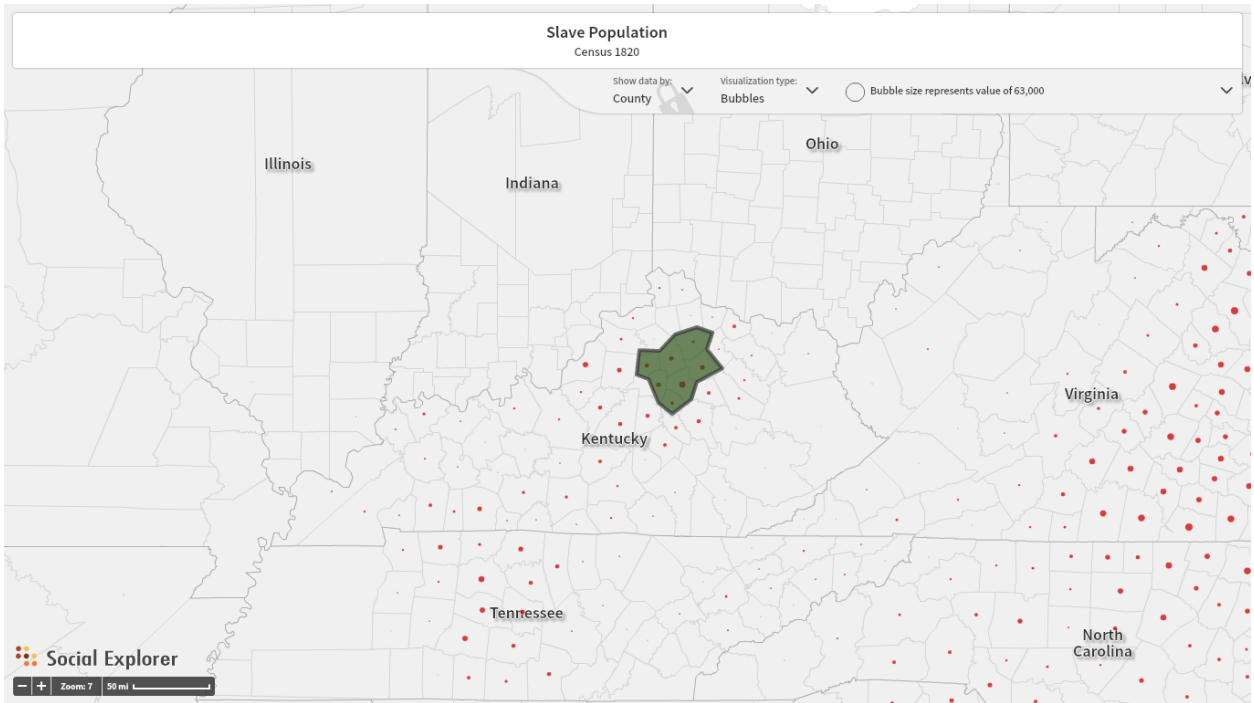


Figure 7: Inner Bluegrass Slave Population, 1820

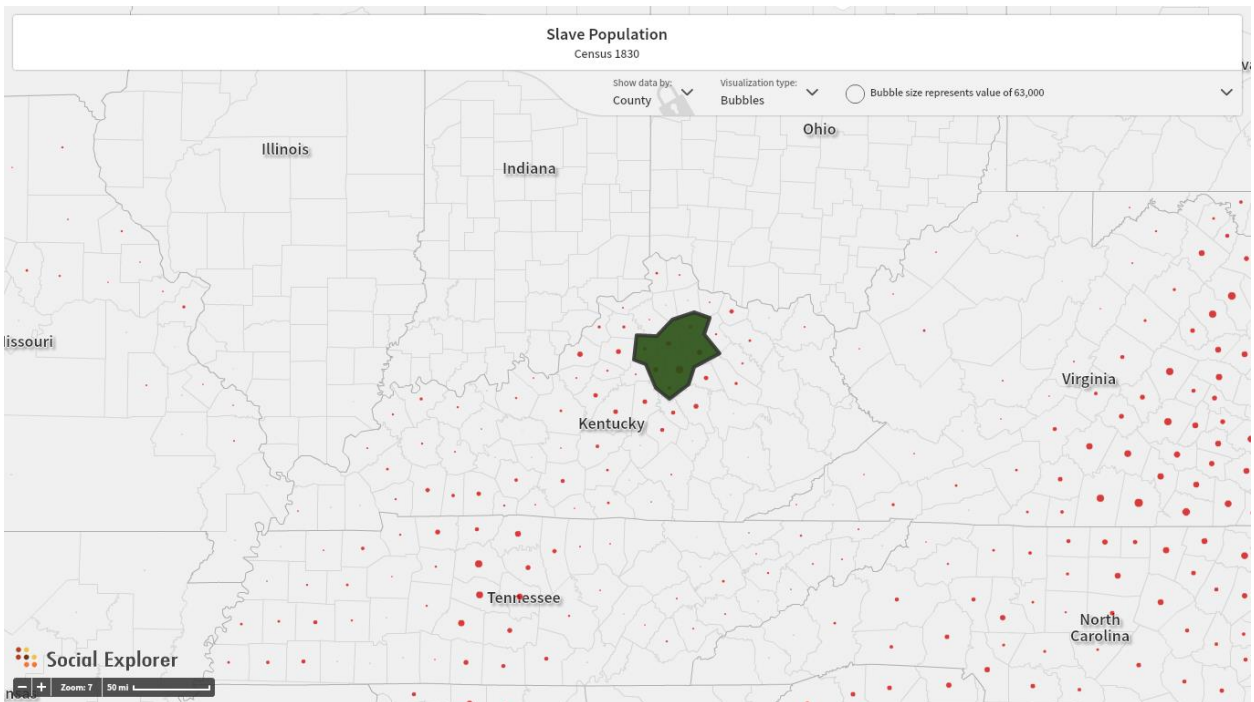


Figure 8: Inner Bluegrass Slave Population, 1830

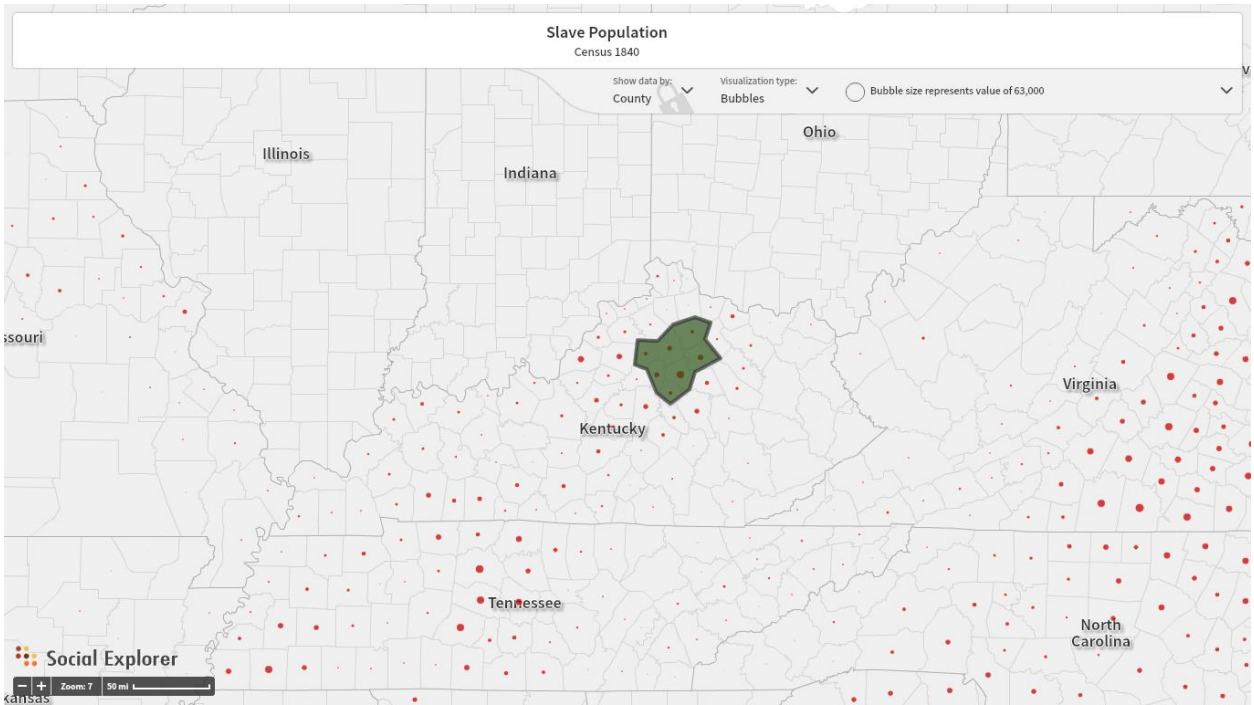


Figure 9: Inner Bluegrass Slave Population, 1840

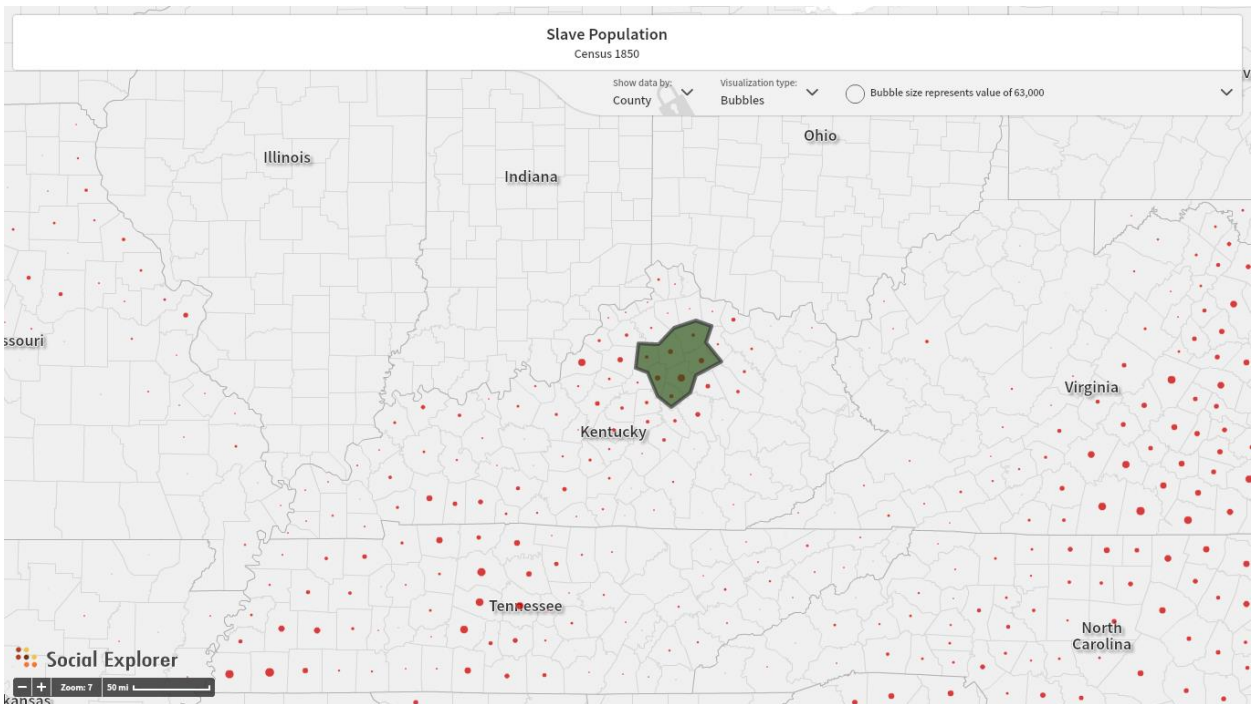


Figure 10: Inner Bluegrass Slave Population, 1850

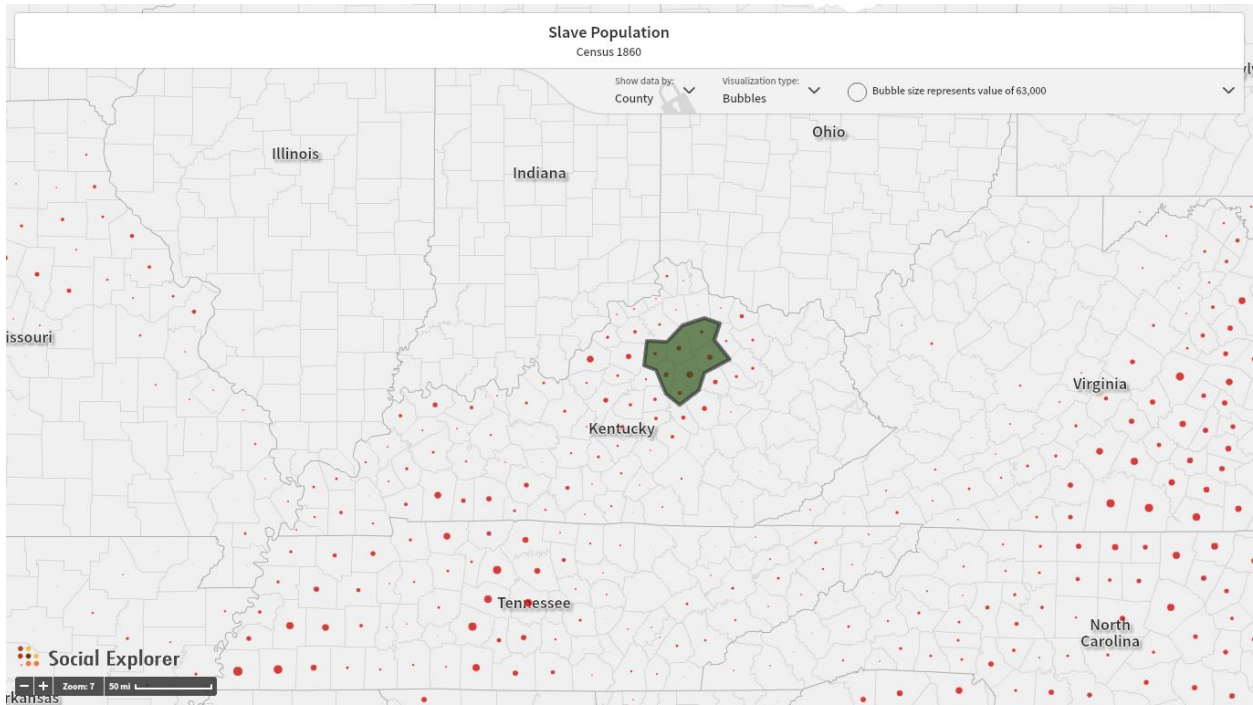


Figure 11: Inner Bluegrass Slave Population, 1860

While the southern states consisted of stark dichotomies (white and black; slave and free), the world could be difficult to navigate for slaves like Henry Bibb. The Bluegrass Region possessed a complex social organization. Bibb described three classes of white folk: slave owners, the “poor and loafing class,” and a poor, antislavery element. To Bibb, slave holders were “rich, aristocratic, overbearing.” They held a patrician contempt for those who sweat for their bread. Even slaves, Bibb confessed, bore social distinctions as well. His wife Malinda, for instance, “moved in the highest circle of slaves, and free people of color.” Slave holders divided their slaves between domestic and agricultural labor. Such distinctions could be just as marked as those between planters and poor whites with some slaves refusing to associate with those they deemed beneath them in distinctions like status, color, or character.<sup>71</sup>

<sup>71</sup> Bibb, *Narrative of the Life and Adventures of Henry Bibb an American Slave*, 29, 36.

The myth of paternalism dominated planter life in the Bluegrass Region. J.D. Green, a Kentucky slave who escaped the institution three times before writing a narrative of his life, recounted the sermons of a minister who told his congregation that slaveholders had saved slaves' souls by bringing them out of Africa and into the "Bible light." In addition to saving the souls of Africans, slaveholders, according to the Reverend Cobb, also performed corporal works of mercy, supplying slaves' their "daily wants," their meat and drink. Of course, Green did not recognize the munificence of slaveholders, and throughout his narrative provides heaps of evidence against the peculiar institution.<sup>72</sup>

In *Uncle Tom's Cabin*, a novel set in Kentucky, Stowe assails the innocence of even the most benevolent masters. By all measures except for his slave owning, Arthur Shelby, the planter who owns Tom and Eliza at the beginning of the novel, is a decent guy. He grants his slaves wide latitude, permitting them to travel, learn to read, and marry whomever they choose. But this is precisely the point of Stowe's sentimental novel: the *institution* of slavery was evil. Shelby falls into debt and is forced to sell Tom, the venerable old slave, along with an infant named Harry. Fearing for her son and unable to bear being separated from him, Eliza leaves the plantation and crosses the ice-covered Ohio River on foot. Despite the opportunity to flee, Tom sticks around long enough to be sold down river where he becomes the property of several different slavers. When Tom withholds information about two runaways, Simon Legree, Tom's final owner, instructs his overseers to beat Tom to death. Meanwhile, Arthur Shelby's son George, intent on freeing Tom, arrives too late to save his life.<sup>73</sup>

---

<sup>72</sup> J.D. Green, *Narrative of the Life of J.D. Green, A Runaway Slave, From Kentucky, Containing an Account of His Three Escapes, in 1839, 1846, and 1848* (Huddersfield, UK: Henry Fielding, 1864), 6, 15, 20.

<sup>73</sup> Stowe, *Uncle Tom's Cabin*.

As maudlin as Stowe's novel seems, she did her research, and passages from slave narratives and interviews with the Federal Writers' Project of the Works Progress Administration for the State of Kentucky confirm some of Stowe's details. At Mr. Bogie's plantation in Garrard County, for instance, the living conditions resembled Tom's cabin. "We lived in one room," Dan Bogie said, "with one bed in the cabin."<sup>74</sup> Slaves augmented their meager rations with "all kinds of wild food." They hunted opossums and rabbits—after being sold, Stephen Foster's narrator laments "They hunt no more for the 'possum and the coon"—and fished in the creeks. George Henderson recalled eating minnows fried in hot grease.<sup>75</sup> While slave life in the Bluegrass was arduous, slaves still feared being sold "down river." Local slave traders accumulated slaves, keeping them in an old barn "until they had enough to take to New Orleans on a boat."<sup>76</sup> The threat of the Deep South, real or imagined, served as a powerful tool for owners to keep their property pliant. A Works Progress Administrator writer recounted, "Negroes who were unruly, or were caught attempting to escape, were usually sold to planters in the far south where they could not hope to escape, and were forced to end their days in unremitting toil in the cotton and cane fields, forever separated from relatives and friends."<sup>77</sup> Henry Clay who remained ambivalent about the institution of slavery and who considered himself a just and kind master used the threat of New Orleans to discipline his slaves. When his slave Charlotte sued him for her freedom, Clay separated her from her family by sending her to his daughter's home in Louisiana.

---

<sup>74</sup> Federal Writer's Project, *Slave Narratives*, 1.

<sup>75</sup> Federal Writer's Project, *Slave Narratives*, 5.

<sup>76</sup> Federal Writer's Project, *Slave Narratives*, 61.

<sup>77</sup> Federal Writer's Project, *Slave Narratives*, 70.



Figure 12, Ashland, the Henry Clay Estate, Lexington, Kentucky

In many ways, Henry Clay embodied the Bluegrass vision of the planter-breeder. On a snowy January afternoon in 2017, Henry Clay’s estate, Ashland, doesn’t look like the other horse farms out on Versailles Road—pronounced locally as ver-SALES—or the Paris Pike. For one thing it’s smaller. Today, Ashland—it’s on the Lexington scavenger hunt list, by the way—is just a fraction of the size it was when Clay managed it. Land-hungry Lexington swallowed most of the estate, and the mansion sits now in an inner suburb a few miles from downtown. There are a lot more trees than on modern farms. I closed my eyes as I walked the grounds and listened to squirrels gnawing at acorns while trying to imagine the place as a working stud farm when Clay’s stallion Monarch reigned over the Turf.

The main part of the house rises to three red-brick clad stories. In the 1810s, Clay hired Benjamin Latrobe (who had already designed Philadelphia’s water system and overseen construction of the US Capitol) to add one-story wings to either side of the house.

When I got inside, I began making mental notes of everything I saw: the trophy buck mounted on the wall, the cupola and skylight in the library, and the rococo molding. “This ceiling’s low,” I thought. “This desk is where Clay negotiated buying and selling human beings.”

A few rooms into my tour of the house, I learned that Clay’s son, James P. Clay, razed and rebuilt the mansion after his father died. He stayed as close to the original design as possible, but Henry Clay’s ghost didn’t ply the floorboards in this old house. He had never lived here.

I didn’t much mind Clay’s spiritual absence from the building; I was more interested by what happened *outside* the house anyway, an affinity that I shared with Clay. At Ashland, Clay turned his property into a civic experiment. He modeled self-sufficiency and proper management for the whole nation.

Henry Clay was one of the few Kentuckians to achieve planter status. Clay built his mansion in 1806. The Great Compromiser took pride in his new property and commented on his home with biblical allusions and some self-congratulation: “I am in one respect better off than Moses. He died in sight of and without reaching the Promised Land. I occupy as good a farm as any he would have found had he reached it, and Ashland has been acquired not by hereditary descent but by my own labor.”<sup>78</sup> The country home filled nearly six hundred acres with crops, pastures, gardens, and outbuildings. The ash trees of the surrounding woodland gave the estate its name, and Clay drew on the for the house’s interior woodwork. Pierre Charles L’Enfant, who had recently laid the gridwork for Washington, D.C., designed Clay’s

---

<sup>78</sup> Henry Clay to Rodney Dennis, April 15, 1849 in Calvin Colton, ed., *The Works of Henry Clay Comprising His Life, Correspondence and Speeches*, vol. 5 (New York: G.P. Putnam’s Sons, 1904), 587.

landscaping. He reputedly incorporated every tree and shrub indigenous to Kentucky in the design.<sup>79</sup>

Before moving to Ashland from Virginia, Clay owned few horses. Records show that in 1799 he had only one and in 1804 that number had grown to five.<sup>80</sup> In 1806, Clay bought his first breeding stallion as part of a five-person syndicate. The group purchased Buzzard, a proven English winner, for \$5,500. With only one eye and a dislocated hip, Buzzard was useless as a runner, but he proved to be a worthwhile breeding stallion. Clay and his partners advertised Buzzard's stud services charging \$40 per leap. Clay enjoyed his role as a thoroughbred breeder. He started racing his horses in 1809 and maintained friendships with turf patrons like Dr. Elisha Warfield and William R. Johnson, famous as the "father of the Kentucky Turf" and the "Napoleon of the Turf," respectively.<sup>81</sup>

Blooded horses commanded exorbitant prices during the Early Republic, but savvy owners managed to turn a handsome profit on their investments. For instance, Robert Sanders of Scott County, Kentucky paid four thousand dollars for Melzar, a blooded horse owned by John Hoskins in King and Queen County Virginia. He brought the horse approximately 600 miles to his farm near Lexington where Sanders let him to mares for thirty dollars.<sup>82</sup> Even at such an early date, there was money to be made in the thoroughbred industry. Servicing more than one hundred mares in a season, Melzar could recover Sanders's initial investment in just over a single season. Bluegrass breeders took a special

---

<sup>79</sup> Elizabeth M. Simpson, *Bluegrass Houses and Their Traditions* (Lexington, KY: Transylvania University Press, 1932), 401.

<sup>80</sup> Aron, *How the West Was Lost*, 96.

<sup>81</sup> Jeff Meyer, "Henry Clay's Legacy to Horse Breeding and Racing" *Register of the Kentucky Historical Society* 100, no. 4 ([Autumn] 2002), 477-78.

<sup>82</sup> "Introduction of Bred Horses to Kentucky" *American Turf Register*, June 10, 1830, 478-79.

interest in blooded, or thoroughbred, horses. Among Kentuckians, François André Michaux noted that conversations tended to focus on “horses and law-suits.” By 1800, the recently organized state of Kentucky held 90,000 horses, the highest per capita horse population in the country. Most of those 90,000 horses worked for their keep—they pulled ploughs or wagons on farms or in cities—but the state also boasted a large population of thoroughbred horses for racing. Kentucky gentlemen imported horses from Great Britain or moved them across the mountains from Virginia. The profits available to successful thoroughbred breeders justified the expense of transporting horses to the landlocked Bluegrass. Stud fees reached twenty dollars per cover and forty dollars per live foal. In addition to the handsome profits breeding thoroughbreds brought, a winning racehorse boosted a planter’s status.<sup>83</sup>

In the 1930s, Elizabeth M. Simpson published a book that chronicled the best houses and properties in her home region of the Bluegrass. She divided the book by estate giving a thumbnail sketch of the properties and the families that lived on them. Many of the houses belonged to families with names familiar to students of history: the Breckinridges, the Clays, the Warfields, and others. For the book’s epigraph, Simpson chose a poem that recognized the role played by the “Arab race” of horses in constructing the landscape and maintaining its aesthetic appeal.<sup>84</sup> The poem and the book more generally also recognize the unequal distribution of power. Simpson is unabashed in her preference for slavery. The Bluegrass houses and gardens that she celebrates sit on landscapes that reflect political power and exclusion. As Simpson recognized in her book, thoroughbred horses also played a role in the creation of these landscapes. Their dietary needs necessitated consolidation of large farms,

---

<sup>83</sup> Aron, *How the West Was Lost*, 126.

<sup>84</sup> Virginia Jeffrey Morgan, “In Lexington,” quoted in Simpson, epigraph.

and their eating habits perpetuated an ecology amenable to horses. Their value as economic investments, too, increased property values in the Bluegrass making land ownership available only to the planter class. And, of course, this economic drama played out on limestone deposits dating back hundreds of millions of years.

Until the colonization of North America, horses hadn't stepped on Kentucky's calcareous soil for thousands of years. Yet, the view from the Paris Pike, postcard worthy scenes of mares and foals grazing contentedly in front of stone barns, seems timeless, but these are non-native species eating non-native grasses. The movement of the Tidewater gentry across the Alleghenies may have spelled the end of the free and open west. The horses they brought with them carried on their backs a vision for the Region based on diet and geology. To protect their investments, Kentucky settlers preserved their political economy and produced new narratives of belonging.

## **Chapter Four: Industrial Horse Power New York, 1823-1870**

In late May, 1823, “not less than 20,000 strangers” crammed into the hotels and boarding houses of New York City. Innkeepers found people space wherever they could, but, in a city whose population barely exceeded 120,000, the shock of visitors surely tested the housing stock. Thousands of people trekked northward from Virginia, North Carolina, and even farther away for a horse race.<sup>1</sup>

A year earlier, New Yorker Cornelius Van Ranst brought his horse Eclipse down to the National course in Washington, D.C., for a match race against the Southern champion, Sir Charles. (Van Ranst’s horse shouldn’t be confused with the eighteenth-century English horse Eclipse; to make things clearer Van Ranst’s horse is often called American Eclipse). Sir Charles pulled up lame before crossing the finish line in that race, and the Yankee horse won easily. The loss stung Southern horsemen who considered their bloodstock the pride of the nation. The North had fewer racetracks and fewer horses and lacked the passion for the sport that was so visible on Southern tracks.

William Ransom Johnson, Virginia’s “Napoleon of the Turf,” challenged Van Ranst to a new match race. The following year, Johnson would stake \$20,000 on the best horse the Southern states could muster in a match race at Long Island’s Union course.<sup>2</sup>

This wasn’t a regular horse race. The \$40,000 purse, \$20,000 from each participant, was just the beginning. This was more like Hungary and the Soviet Union filling the pool with blood in 1956, Indian and Pakistani cricketers enacting geopolitics, or Celtic and Rangers players carrying Glaswegian sectarianism with them onto the pitch. “Never did a

---

<sup>1</sup> “Highly Important!,” *Niles’ Weekly Register*, May 31, 1823.

<sup>2</sup> Struna, “The North-South Races,” 31-34.

case happen before,” Baltimore-based publisher Hezekiah Niles wrote in the lead up to the race, “in which *state* pride was so much at stake.”<sup>3</sup>

What, exactly, was at stake in this early intersectional horse race? Historians have written about the race as a prelude to the Civil War. Nancy L. Struna argues that the great North-South contest reflected a moment of transition in American sporting culture. Large crowds wagered incredible sums while newspapers even printed special extras.<sup>4</sup> Before the intersectional rivalries developed, sport in the US had been a local concern.<sup>5</sup> In the middle of the nineteenth century, however, a national sport, or at least sporting culture, emerged. The great North-South races pitted two political economies against each other: slave labor against free labor, an industrial economy against a plantation economy. Were thoroughbreds a way of life for Southern cavaliers or the expensive baubles of an emerging leisure class built on industrial capitalism? The meaning of thoroughbred horses seemed to hang in the balance of these races. The race itself wouldn’t change the course of horse racing or the meaning of thoroughbreds in the United States, but the destruction in the southern states caused by the Civil War changed the geography of the sport and shifted the cultural meaning of the thoroughbred.

Those in attendance seemed aware that this was more than just a race between horses from different regions. Horses and carriages formed an unbroken line three wide over the eight miles separating New York from the course—the race track was located in what is now the Woodhaven neighborhood of Queens. At the track, the grandstand filled hours before the

---

<sup>3</sup> “Highly Important!” *Niles’ Weekly Register*, May 31, 1823. Emphasis in original.

<sup>4</sup> Struna, “The North-South Races,” 28.

<sup>5</sup> Jane Carson, *Colonial Virginians at Play* (Williamsburg, VA: Colonial Williamsburg Foundation, 1989), 108-112; see also, T.H. Breen “Horses and Gentlemen.”

race; women crowded the club house and its balcony, and horsemen and carriages lined the mile circuit. Eyewitness and racing journalist Cadwallader R. Colden guessed that the “throng of pedestrians” contained “*not less than sixty thousand spectators.*”<sup>6</sup>

Whether Colden, who is not otherwise known to historians as an exaggerator, let the emotions of the great North-South rivalry color his estimate, the race was a big deal. Café owner William Niblo stationed a rider at the track and arranged for him to signal the winner, so he could run a white flag up the pole atop his coffee house if Eclipse won. He had a black flag on hand if the Southerners won, but he preferred not to have to use it. Andrew Jackson, then serving as the first American governor of Florida, watched the race from inside the track as did Vice President Daniel Tompkins, U.S. Representative from Virginia John Randolph, and former Vice President Aaron Burr.<sup>7</sup>

At the appointed hour the Southerners nominated the dark sorrel horse Sir Henry to race against Eclipse. The Southern delegation acted without their Napoleon, since William Ransom Johnson was “seized with indisposition, so sudden and violent, as to confine him not only to his room, but to his bed.”<sup>8</sup> (Some contemporaries attributed Johnson’s illness to a plate of oysters, but Johnson himself insisted it was lobsters and champagne that had done him in. Either way, we know for certain that he dined sumptuously the evening before the

---

<sup>6</sup> Old Turfman [Cadwallader R. Colden], “The Great Match Race between Eclipse and Sir Henry—Minutely Described by an Old Turfman” *American Turf Register*, September 1830, 5. Emphasis in original.

<sup>7</sup> William H.P. Robertson, *The History of Thoroughbred Racing in America* (Englewood Cliffs, NJ: Prentice-Hall, Inc., 1964), 53. On Colden’s estimate, William H.P. Robertson is skeptical, but, as he writes, “this was the period when the horse was king, and fully 20,000 were said to have traveled up from the South to witness the great joust.”

<sup>8</sup> Old Turfman [Cadwallader R. Colden], “The Great Match Race,” 4. The text in the *American Turf Register* consistently misspells Johnson’s name as Johnston.

race.)<sup>9</sup> The Southern horse led the first heat wire to wire, setting an American record for the four-mile race. Eclipse finished the race bloodied by his jockey's whip. After the horses rested for thirty minutes, the officials called them back to the starting line. Colden was "surprised to find that to appearance [Eclipse] had not only entirely recovered, but seemed full of mettle." During the intermission, Van Ranst replaced his original rider with the experienced jockey Samuel Purdy. Purdy pressed Eclipse to keep pace in the second heat, passing Sir Henry in the last quarter mile of the race. By the third heat, both horses were exhausted by the effort, and the more seasoned Eclipse managed to take the third heat by three lengths.<sup>10</sup> The brass band struck up "See the Conquering Hero Comes" in honor of the Northern horse's victory, the *Evening Post* published the nation's first sports extra, and William Niblo ran up the white flag of victory.<sup>11</sup>

The race wasn't quite a Waterloo for Johnson and the Southern horsemen, but they did lose their \$20,000 stake plus any additional wagers they made on race day. As soon as he was ambulatory, William Ransom Johnson wrote to John C. Stevens to renew the rivalry offering to race Sir Henry against Eclipse at the National course in Washington for "any sum from twenty to fifty thousand dollars." The backers of Eclipse, of course, could substitute any horse they wanted, provided it was foaled and owned on the north side of the Potomac.<sup>12</sup> Between 1830 and 1832, Southerners reclaimed their dominance on the turf winning twenty-

---

<sup>9</sup> Robertson, *The History of Thoroughbred Racing in America*, 56.

<sup>10</sup> Old Turfman [Cadwallader R. Colden], "The Great Match Race," 7-12.

<sup>11</sup> Robertson, *The History of Thoroughbred Racing in America*, 56.

<sup>12</sup> William R. Johnson to John C. Stevens, Esq. May 28, 1823 quoted in Old Turfman [Cadwallader R. Colden], "The Great Match Race," 12.

four of thirty-one intersectional races. Northerners would close that gap winning twenty-nine out of seventy-three races by 1834.<sup>13</sup>

It's fitting that Johnson sought out John C. Stevens as his chief rival, because Stevens represented the widening gap between North and South. Born in Hoboken, New Jersey in 1785, Stevens graduated from Columbia University in 1803 and ran a company that operated the first steam ferry between Hoboken and Manhattan. Stevens bred and trained thoroughbreds on his estate, Castle Point, which overlooked the Hudson River, but he expanded his avocations with the technical developments of the North. He became commodore of the New York Yacht Club and designed the sloop *America*. His brother, Edwin Augustus Stevens, endowed Stevens Institute of Technology, one of the nation's first technological universities. Johnson was as Southern as Stevens was Northern. Johnson represented the plantation economy. From Oakland, his estate in Chesterfield County, Virginia, Johnson pursued the interests of a Southern gentleman: breeding, planting, and politics.<sup>14</sup>

An English visitor to the US in 1823 recorded the keen interest in the horse race, writing, "In all the papers, and in every man's mouth, were the questions, 'Are you for the North or the South?' 'The Free or the Slave states?' 'The Whites or the Blacks?'"<sup>15</sup> In this polarized contest, Eclipse represented the northern type of horse.<sup>16</sup> The nation, both north and south, was undergoing a process of modernization, and the unequal progress and differing

---

<sup>13</sup> Struna, "The North-South Races," 40.

<sup>14</sup> *Ibid.*, 39-40.

<sup>15</sup> [William Newnham Blane], *An Excursion through the United States and Canada, during the Years 1822-1823* (London: Baldwin, Cradock, and Joy, 1824), 316-17.

<sup>16</sup> Paul E. Johnson, "Northern Horse: American Eclipse as a Representative New Yorker" *Journal of the Early Republic*, 33, no. 4 (Winter 2013), 702.

methods contributed to the growing sectional divide.<sup>17</sup> After the Civil War, northerners took the reins of horse racing and made the national sport reflect the industrial ethos of the Northeast. The founding of Jockey Club in 1894 in New York City galvanized the northern claim to the sport. The founding officers of the club, John Hunter, James R. Keen, and Frank K. Sturgis were all New Yorkers.<sup>18</sup> The race horse became an industrial animal.

Racing in the North dates to the colonial period. The British instituted horse racing in New York as soon as they arrived. In 1665 Colonel Richard Nicolls, leader of the British forces in the war for New Netherlands, encouraged the sport by offering a silver cup for the winner of two annual races held at Hempstead Plain on Long Island where the English laid out a round two-mile course on the flat, treeless expanse. The racers, turf historian John Hervey tells us, were on the whole “slow, logy, and unimproved.” Colonists preferred Arabian horses when they could afford them, and lighter, faster horses coming from England or the West Indies replaced heavier draft horses. William Penn imported a racing-quality stallion named Tamerlane in 1699, and a horse called Young Fire, whose white coat almost certainly implied an eastern origin, prompted enough respect that his owner staked 1,000 pounds of tobacco and twenty shillings in coin against any horse who would race him. British colonists carved

---

<sup>17</sup> David M. Potter, *The Impending Crisis, 1848-1861*, Don E. Fehrenbacher, ed. (New York: Harper & Row, 1976). Horses played a role in the industrialization and urbanization of northern cities. See, for example, Ann Norton Greene, *Horses at Work: Harnessing Power in Industrial America* (Cambridge, MA: Harvard University Press, 2008); Clay McShane and Joel A. Tarr, *The Horse in the City: Living Machines in the Nineteenth Century* (Baltimore: Johns Hopkins University Press, 2007); Margaret E. Derry, *Horses in Society: A Story of Animal Breeding and Marketing Culture, 1800-1920* (Toronto: University of Toronto Press, 2015).

<sup>18</sup> For a discussion of the New York City financial and cultural elite in the period surrounding the Civil War, see Sven Beckert, *The Monied Metropolis*. The literature on the Civil War and Reconstruction is voluminous. On the Civil War, I recommend James M. McPherson, *Battle Cry of Freedom: The Civil War Era* (New York: Oxford University Press, 1988). On Reconstruction, see W.E.B. Du Bois, *Black Reconstruction in America: An Essay toward a History of the Part which Black Folk Played in the Attempt to Reconstruct Democracy in America, 1860-1880* (New York: Oxford University Press, 2007); Eric Foner, *Reconstruction: America's Unfinished Revolution, 1863-1877* (New York: Harper & Row, 1988).

out race courses in New York City on Long Island and across the Hudson River in New Jersey at Paulus Hook. By 1725, the swiftest horses raced for the New York Subscription Plate.<sup>19</sup> Racing in the northern colonies adopted the look and feel of the British turf, with racers traversing a circular or oval-shaped track.

In the Southern colonies, racing had a local flavor. Virginians took to horse racing with a fervor that dwarfed efforts to the north, and that colony became renowned as North America's race horse region. Racing fit well with the cavalier culture in the Tidewater. Over-the-top wagers broadcast an individual's wealth, while a rider's derring-do proved his bravery to peers and potential mates. Unlike the Northern races run on round tracks for specified prizes, Southern gentlemen preferred running on straight quarter-mile tracks where riders might jostle with or even dismount their opponents. Crowds assembled to cheer on the racers whose "family histories, life stories, and individual character traits" defined Southern gentility. At the finishing pole, the raucous crowds sent up "a tornado of applause...more especially if the horses happened to jostle and one of the riders been thrown off with a broken leg."<sup>20</sup> Racing was such a part of colonial life that cavaliers defined themselves through their horses. Philip Fithian, a New Jersey tutor working in the Tidewater, complained of the "Loud disputes concerning the Excellence of each others Colts" that drowned out his lessons. Boasts included not only colts, but also "their Fathers, Mothers...Brothers, Sisters, Uncles, Aunts, Nephews, Nieces and Cousins to the fourth Degree!"<sup>21</sup> Fithian captured an early association between pedigrees and speed. A horse's potential could be proven either by

---

<sup>19</sup> Hervey *Racing in America, 1665-1865*, vol. 1, 5-6, 9, 13, 19.

<sup>20</sup> John Bernard, *Retrospections of America, 1797-1811*, Bayle Bernard, ed. (New York: Harper & Brothers, 1887), 155.

<sup>21</sup> Philip Vickers Fithian, *Philip Vickers Fithian: Journal and Letters, 1767-1774*, ed. John Rogers Williams (Princeton: Princeton University Library, 1900), 236.

an impressive sprint or a familial relationship to a fast steed. The volume of the disputes concerning Virginia horses suggests how highly colonists esteemed their horses.

Bulle Rocke, imported to the Virginia colony in 1730 but having left behind a scant paper trail, remains America's mythological Ur-thoroughbred; his arrival in the colonies began a sequence of (better documented) thoroughbred emigrants. Many American colonists from the Tidewater region of Virginia sent their sons to Cambridge for a university education. Those sons, to the chagrin of their dons, frequented the races at nearby Newmarket with undergraduate ardor. When they returned to Virginia after their studies, they brought along some horses to begin breeding and racing in the Tidewater. By the 1750s, Jolly Roger, Morton's Traveller, Booth's Janus, and other thoroughbreds stood at a wide enough distribution in Virginia that the army relied on the colony's horses for mounts in the Seven Years' War. Thoroughbred breeders among the Virginia cavalier class, who became early versions of war profiteers, went crazy for blooded horses after the Treaty of Paris cleared the ocean of French privateers. In addition to thoroughbreds from England, Virginians imported some of the famous horses from the Levant. But the colonists expressed a very clear preference for the progeny of the foundation sires. Fairfax Harrison, a southerner who spent his mid-life researching the early history of American thoroughbreds, claimed that only three of the horses and five of the mares that became "corner stone horses" in the United States traced ancestry back to Arabians besides the founders. Harrison lists thirty-four cornerstone horses and fifteen mares brought to the American colonies before the Revolution.<sup>22</sup> Racing took a back seat in the colonies during the Revolution, but importations resumed with peace. Between 1784 and 1800 horse-racing colonists imported 134 thoroughbred stallions and

---

<sup>22</sup> Harrison, *The Equine F.F.Vs.*, 45.

mares. When the Jay Treaty expired in 1806, importations of thoroughbreds slowed as relations between the United States and the United Kingdom soured leading up to the War of 1812.<sup>23</sup> The declining number of imports contributed to a homegrown breeding industry.

Regionalism dominated discussions of horse racing in the early Republic. New York, New Jersey, Maryland, Virginia, the Carolinas, Kentucky, and Tennessee all raised blooded horses, and each state had its partisans. A correspondent writing to the *American Turf Register* wondered whether the “climate, latitude, soil, or the particular crosses which may have prevailed in that country” gave the border of North Carolina and Virginia its predominant position among horse breeding lands. However, champions of Kentucky horses rejected his premise: their state produced a colt who covered three miles in five minutes and 53 seconds. “Can Virginia or North Carolina beat that on the Central Course, next spring,” they asked.<sup>24</sup>

As much as regional pride divided the states, bloodstock connected them. During the colonial period, Virginia emerged as the dominant breeding state “diffusing ‘the blood’ from her rich veins, among her sister states”: North Carolina, South Carolina, Tennessee, New York, Maryland, Pennsylvania, New Jersey, and Kentucky. These regions produced exceptional horses.<sup>25</sup> The only way to judge the dominance of one region over another was to hold interstate races. Challenge races between states and regions brought celebrity horses from different states into competition with each other. The Northern states left the gates

---

<sup>23</sup> Struna, “The North-South Match,” 29.

<sup>24</sup> “The Region in America Most Favourable to the Growth of the Best Running Horses” *American Turf Register*, March 1832, 343.

<sup>25</sup> “The Racehorse Region of America, Further Remarks on” *American Turf Register*, August 1832, 597.

quickly, but by the 1830s, they had fallen behind the Southern states in producing fast runners.

The Civil War ultimately changed the geography of horse racing in America. The pro-Union folk song, “Kentucky! O Kentucky!” counts as a reminder of General John Hunt Morgan’s infamous raids in Kentucky during the Civil War. Morgan’s raids forced many of the state’s most prominent breeders to ransom some of their finest bloodstock. Set to the German folk melody “O Tannenbaum,” the song depicts Morgan lurking through the countryside with “his hand on thy stable door.” The thieving General would “gobble every horse and steer” riding the state’s “good gray mare” until her back is sore.<sup>26</sup>

Despite Morgan’s association as a horse thief, his tactics and allegiance to the Confederacy “excited the admiration” of some young men in Kentucky.<sup>27</sup> Brothers Thomas W. and Henry M. Bullitt grew up at Oxmoor, the farm their grandfather owned (and named after the fictional farm in *Tristram Shandy*) near Louisville. Henry had vivid memories of the sweet and cool spring water on the property, and often spoke about the “patriarchal past” not only populated by happy, hardworking, and grateful slaves, but also “before the polka had crossed the sea and when the ‘German’ was unknown.”<sup>28</sup> During the Civil War, the brothers left Kentucky to join the Confederate Army without telling their family. In fact, their sister

---

<sup>26</sup> Anonymous, quoted in D.M. Kelsey, *Deeds of Daring by the American Soldier, North and South* (Chicago and New York: The Werner Company, 1897), 329.

<sup>27</sup> Thomas Bullitt Civil War Recollection, 32 Folder 331 Thomas W. Bullitt (1838-1910) Poetry, Speeches, Stories, etc., Civil War Recollection written in 1907 Mss. A B937c130 Bullitt Family Papers – Oxmoor Collection, 1683-d2003 Filson Historical Society.

<sup>28</sup> Henry Bullitt Recollections of the Civil War, Folder 131 Thomas W. Bullitt (1838-1910) Poetry, Speeches, Stories, etc., Civil War Recollection written in 1907 Mss. A B937c130 Bullitt Family Papers – Oxmoor Collection, 1683-2003 Filson Historical Society.

had four sheep slaughtered for a meal with Henry and Thomas, but the meat rotted when the pair didn't return. The raiders left Knoxville on July 4, 1862 on what became known as the Cynthiana Raid. On his first action with Morgan's men, Thomas Bullitt had yet to understand "that on Morgan's raids, horses ceased to be private property." The raiders rode in on horseback, but would dismount in battle with one man holding four horses. The unit held horses in common for fleeing, and when a horse tired, soldiers would ride until they came across another horse to appropriate. Given the provenance of southern cavalry men, very often the abandoned horses outclassed those they took.<sup>29</sup>

As the lyrics to "Kentucky! O Kentucky!" suggest Morgan polarized Kentucky communities. When Morgan's columns moved through Danville, Kentucky, Thomas Bullitt's presence with the raiders nearly broke his Aunt's and cousin's hearts. The women could not believe their relative would associate with a common horse thief like Morgan. His cousin Sallie feared for children's welfare and for her home. Bullitt promised her that "these men were not there to make war on women or children; that rights of property would be respected; that her house and her children would be safe." However, when the convoy came through the town again about a week later, Sallie informed him that not ten minutes had passed until a Confederate "came along and took [her neighbor's] bob tailed pony." Bullitt could only reply, "Cousin Sallie, I should have been more explicit. I should have excepted horses. They are no longer private property."<sup>30</sup>

---

<sup>29</sup> Thomas Bullitt Civil War Recollection, 43 Folder 331 Thomas W. Bullitt (1838-1910) Poetry, Speeches, Stories, etc., Civil War Recollection written in 1907 Mss. A B937c130 Bullitt Family Papers – Oxmoor Collection, 1683-2003 Filson Historical Society.

<sup>30</sup> Thomas Bullitt Civil War Recollection, 55, 77-78 Folder 331 Thomas W. Bullitt (1838-1910) Poetry, Speeches, Stories, etc., Civil War Recollection written in 1907 Mss. A B937c130 Bullitt Family Papers – Oxmoor Collection, 1683-2003 Filson Historical Society.

Raiders often couched their theft of horses with the transparent ruse of a “trade.” The second time Thomas Bullitt moved through Danville, his civilian (and Unionist) family and friends noticed the high caliber of his horse. The first time he rode through the town, he had been on a nearly broken-down hack. Now he rode an exemplary mare. He alighted on his friends as they engaged in a discussion about whether “we good, well trained Danville students, would really take horses that belonged to other people without their consent.” Bullitt’s friend Mary noticed his spry new mount and asked about her origins. He told the assembled group that he had traded for it. Pressed further he ceded that “the gentleman seemed and doubtless was quite unwilling to trade, as indeed it was not inviting to him.” But he maintained the euphemism, only noting that “after a little” the man accepted the inevitable, changed saddles with the rebel, and parted ways.<sup>31</sup>

John Hunt Morgan’s raids in Kentucky constituted a serious threat to the thoroughbred industry. Thoroughbred owners—some of whom had fled the state to avoid the fighting—heard about Morgan’s raids and worried about his movements through the Bluegrass. Bluegrass breeder Robert Alexander lost “some farm horses” and a mare by Glencoe during a raid in June 1864, and Confederates nearly absconded with two of Alexander’s best racers. The Alexanders suffered less than some other thoroughbred owners during Morgan’s raids. Robert Gray, another local race horse owner, sent all his horses away from the Bluegrass for safety and lost all his entire string.<sup>32</sup> In the aftermath of Morgan’s raids, thoroughbred owners shuffled their stock to safeguard their investments. R.A.

---

<sup>31</sup> Thomas Bullitt Civil War Recollection, 77 Folder 331 Thomas W. Bullitt (1838-1910) Poetry, Speeches, Stories, etc., Civil War Recollection written in 1907 Mss. A B937c130 Bullitt Family Papers – Oxmoor Collection, 1683-2003 Filson Historical Society.

<sup>32</sup> D.G. Humphreys to A.J. Alexander 17 May 1864 Mss 93 Woodburn Farm Series Box 18 Folder 10 Correspondence Jan-Jun 1864 Kentucky Historical Society.

Alexander invited his neighbors, both Unionists and Confederates, to board their horses on his farm during the fighting, and A.J. Alexander offered a suffering horse owner a “filly sent up from Louisville.”<sup>33</sup>

The Alexanders, R.A. and A.J. came from one of the wealthiest families in the Bluegrass. Robert Alexander established a farm in Woodford County, Kentucky in 1791. Born in Scotland and educated at Edinburgh, Alexander served as Benjamin Franklin’s amanuensis during his mission to France. Alexander followed Franklin back to the United States after the Treaty of Paris and purchased 2,700 acres of farmland from the Revolutionary War hero General Hugh Mercer. Alexander raised and raced a few horses on his property, and his wife’s family dabbled in the horse business, but Alexander’s oldest son, Robert Aitcheson Alexander established Woodburn Farm as a renowned breeding center. Born on Woodburn Farm in 1819, R.A. Alexander studied at Trinity College, Cambridge. He inherited his Scottish uncle’s fortune while he was a student, and he returned to Kentucky wealthy and dedicated to raising thoroughbreds. Upon his father’s death, R.A. Alexander bought out his siblings’ shares in the farm and transformed Woodburn into a modern thoroughbred stud.<sup>34</sup>

Alexander spared no expense amassing his horses. He imported freely from Europe, buying horses through agents and using British banknotes. Transporting a thoroughbred across the Atlantic was a costly endeavor. Costs accrued with fares and feed. Once Alexander even paid to have a deck house removed and replaced to get his new horse off a ship. The

---

<sup>33</sup> D.H. Humphreys to A.J. Alexander 29 July 1864 Mss 93 Woodburn Farm Series Box 18 Folder 11 Correspondence July-Dec 1864 Kentucky Historical Society.

<sup>34</sup> “Horse Breeding on Modern Pattern Began Century Ago on Alexander’s Woodburn Farm” MSS 93 Woodburn Farm Series Box 17 Folder 3A Lexington (Horse) 20<sup>th</sup> Century Kentucky Historical Society.

extraction cost Alexander fifty dollars.<sup>35</sup> Alexander traveled to Europe in 1849 and spent two years studying breeding techniques used in England and on the Continent. Alexander returned to England a few years later looking for a stallion to head his stud. He paid Richard Ten Broeck \$15,000 for the blind thoroughbred Lexington. At the time, the sum was the highest price paid for a thoroughbred.<sup>36</sup>

Perhaps because of its renown, horse thieves made Woodburn Farm a target during the Civil War. In October 1864, Confederate raiders absconded with three horses, including the unbeaten racer Asteroid. Alexander paid \$300 for Asteroid's return a week later. Then in February, 1865, raiders once again invaded Woodburn, escaping with fourteen of Alexander's best trotters. This proved to be too much for Alexander who dispersed his horses, sending some to Illinois and Ohio and others to California or Canada. He sent two carloads of horses in training to Canada under the supervision of Napoleon Belland. After the War, Belland returned with over \$300,000 in cash from selling the horses sent to Canada. Alexander used the money to reassemble his stable after the fighting.<sup>37</sup>

Although the Civil War destroyed much of the South's breeding and racing infrastructure, the industry made a concerted push to return to Antebellum levels in the aftermath of war. Not only had the war depleted thoroughbred blood stock—by some estimates more than one million horses perished during the conflict—but many Southern

---

<sup>35</sup> Lees & Waller to R.A. Alexander 18 Nov 1856 Mss 93 Woodburn Farm Series Box 14 folder 8 Correspondence Oct-Dec 1856 Kentucky Historical Society.

<sup>36</sup> "Horse Breeding on Modern Pattern Began Century Ago on Alexander's Woodburn Farm" Mss 93 Woodburn Farm Series Box 17 folder 3A Lexington (Horse) 20<sup>th</sup> Century Kentucky Historical Society.

<sup>37</sup> "Horse Breeding on Modern Pattern Began Century Ago on Alexanders' Woodburn Farm" Mss 93 Woodburn Farm Box 17 folder 3A Lexington (Horse) 20<sup>th</sup> Century Kentucky Historical Society.

steeds became Unionists by the War's conclusion.<sup>38</sup> Perhaps the most famous example was Sherman's March to the Sea. When Sherman's troops turned back from Savannah and commenced moving north, they exchanged their horses for better Southern stock. Sanders Bruce noted that "[t]he jaded horses of the Union cavalry in [the Carolinas], as well as in Georgia, were exchanged for the best animals on the southern plantations."<sup>39</sup>

Both during and after the Civil War, the South experienced a bloodstock drain. Throughout the Bluegrass long lines of thoroughbreds crowded the streets led by grooms who were often former slaves. Contemporaries remembered the "lovely" scene and the almost haunting sound of the spirituals the grooms would sing as they marched their chargers toward the railroad station after nightfall. A man accompanied each horse on the journey, and guards at the front and back of the line protected the string from robbers. Horses generally shipped at night, but when owners needed to move their animals during the daylight hours, interested citizens lined the road to catch a glimpse of a passing horse that might become the country's next thoroughbred celebrity. One Sunday, a Kentucky bishop, arrived "a little late" for his service, because he offered a prayer of thanksgiving for "such beauty for man's pleasure and service" after seeing a parade of thoroughbreds on its way to the rail station. At the railroad station, the men would coax their horses onto the train to begin the next leg of their journey to the Saratoga yearling sales.<sup>40</sup>

---

<sup>38</sup> Eric Wittenberg, "The Faithful Steeds," *Rantings of a Civil War Historian: Bringing Obscurity into Focus*, accessed April 30, 2017, <http://civilwarcavalry.com/?p=3521>.

<sup>39</sup> "U.S.' Horses," *Turf, Field, and Farm*, January 27, 1866, 56.

<sup>40</sup> Harry Worcester Smith, "The Death of Wheeler," 3-3e Harry W. Smith. *Sporting reminiscences*, 1939, n.d. Accession #12652, Folder 2 Unpublished Reminiscences of Harry Worcester Smith, Special Collections University of Virginia Library, Charlottesville, Va.

W.S. Vosburgh wrote, “The outbreak of the Civil War in 1861 was followed by a general suspension of racing in the Southern States, and many owners of racing stables brought their horses North to places of safety.”<sup>41</sup> With racing in decline in the South, Northerners became more ardent supporters of the sport. Men and women flocked to tracks at Saratoga, New York, and Secaucus and Paterson, New Jersey “by thousands,” and it could be hoped that by 1866, “Long Branch, and other fashionable places will boast of a race course, and that the turf will be the chief attraction of the season.”<sup>42</sup>

In addition to loss of bloodstock, Southern horses suffered from lack of training and the neglect of southern racing facilities. When representatives of the New Orleans Jockey Club announced a resumption of racing in the city, they planned on holding the racing season over the old Union Course on the Fair Ground. The crown jewel of racing in New Orleans, the Metairie Course stood in “mournful ruin” due to “years of neglect and idleness—during which time it crumbled into a wreck beneath the desolating influences of war.”<sup>43</sup>

After the War, Southerners looked to restore horse racing to its antebellum position; breeders gathered their racing stock, scattered around the country or even internationally. Ever optimistic, Sanders D. Bruce, the Kentucky-born editor of *Turf, Field and Farm*, predicted in 1865 that “in less than another year, some of the most magnificent stables in the country will be found in the Southern States.”<sup>44</sup> Repair crews descended not only on Metairie in New Orleans, but also the Magnolia Course in Mobile and the Washington Course at Charleston. New stables appeared constantly in the rebuilding Southern states, but the

---

<sup>41</sup> Vosburgh, *Racing in America, 1866-1921*, 3.

<sup>42</sup> “Woodlawn and the Turf” *Turf, Field, and Farm*, November 11, 1865, 232.

<sup>43</sup> “The Turf at New Orleans,” *Turf, Field, and Farm*, January 20, 1866, 40.

<sup>44</sup> “The Turf in the South,” *Turf, Field, and Farm*, November 4, 1865, 217.

reconstruction of Southern racecourses also represented an opportunity for Northern horsemen, a special kind of carpetbagger. People figured the most prominent horses would find their ways, like homing pigeons. Meanwhile, editorials in the Northern racing press credited horseracing, a shared passion among Northerners, Southerners and Westerners, as forging the links “to form the golden chain that will bind their hearts again in fraternal love.”<sup>45</sup> Whether through fraternal love or profit-seeking, horses from northern and western stables flooded to the Southern race track’s early seasons in 1866.

At the Saratoga yearling sales, the nation’s wealthiest financiers and industrialists, like August Belmont and Cornelius Vanderbilt, inspected the stabled horses. August Belmont, *filis*, had been consumed by racehorses since his time at Harvard, boarding horses on campus and having the *Spirit of the Times* delivered to his dormitory. The young Belmont filled with pride when the paper published a glowing account of his father’s Nursery Stud. Engaged as he was with his studies, Belmont made time to ride out and care for his horses. He particularly liked having Lady Love at his disposal. A thoroughbred imported from Great Britain, Lady Love was “gentle as a lamb” when Belmont took her riding. By 1870, horseracing was such a part of northern bourgeois life that the Belmont brothers scoped an “almost new” stable near Harvard Yard with space for their two horses.<sup>46</sup> The Belmonts learned their love of race horses from their father, August Belmont, Sr. By the time German-born New York financier died in 1891, he had amassed one of the most celebrated stables of thoroughbreds in the United States including “some of the finest mares that ever lived and a

---

<sup>45</sup> “The Turf in the South,” *Turf, Field, and Farm*, December 9, 1865, 296.

<sup>46</sup> August Belmont (II) to August Belmont 8 May 1870 Belmont Family Collection Box 3, folder 8 Columbia University Library Special Collections.

superb list of promising yearlings.”<sup>47</sup> Raising and racing thoroughbreds provided a space in which national elites came together to socialize and conduct business.

The first of the exclusive northern tracks to open was at Saratoga Springs in 1863.

Horseracing fans say that “Saratoga exists for eleven months of the year, and only really lives for one.” That month, of course, is August when the sleepy spa resort transforms into the epicenter of American horse racing. The summer meeting at the Spa, what the horse racing set calls Saratoga, brings the nation’s most elite breeders and owners to the old “fashionable eating, dressing and water-drinking Saratoga.” Known for its clear, but foul-tasting and smelling water, Saratoga became a getaway for wealthy New Yorkers. They ate and drank, slept and wept, and talked, walked, and wooed.<sup>48</sup> And they certainly ate. An 1870 *Harper’s Magazine* article described the “inner life” of a first-class Saratoga hotel. In addition to copious amounts of eggs and beef, the hotel secured over 18,000 pounds of lobster “caught off the coast of New England, and immediately boiled...in salt water, then packed in ice, and sent to consumers from Boston.”<sup>49</sup>

Saratoga Springs sits just north of Albany in central New York. The north-south Saratoga Fault allows subterranean water to bubble to the surface. The mineral springs attracted throngs of visitors convinced of the water’s healing power. During summer months

---

<sup>47</sup> Arthur F. Bowers to August Belmont Jr. 12 Oct 1891 Belmont Family Collection Box 5, folder 1 Columbia University Library Special Collections.

<sup>48</sup> Cora Urquhart Potter, “My Recitations,” quoted in Harry Worcester Smith, “The Town of Saratoga,” 4 Harry W. Smith. Sporting reminiscences, 1939, n.d. Accession #12652, Folder 2 Unpublished Reminiscences of Harry Smith, Special Collections University of Virginia Library, Charlottesville, Va.

<sup>49</sup> Harry Worcester Smith, “The Town of Saratoga,” 5-7 Harry W. Smith. Sporting reminiscences, 1939, n.d. Accession #12652, Folder 2 Unpublished Reminiscences of Harry Smith, Special Collections University of Virginia Library, Charlottesville, Va.

New Yorkers fled upstate from the cramped the city and its malodorous and insalubrious humors. The bucolic setting and natural water source made the region a popular resort in the early eighteenth century. Some historians considered Saratoga became the United States' first "national resort."<sup>50</sup> But as it did many things, the Civil War disrupted Saratoga's position as a first-rate resort. Despite the impending heat, the New York *Herald* predicted in June 1862, that the region's popular watering spots would be empty that season. The "approach of the tax collector" forced many wealthy New Yorkers to choose retrenchment over recreation. Instead of spending their summers at the fashionable resorts of Newport and Saratoga, New Yorkers contented themselves with "an occasional trip to the rural districts, an occasional visit to a country cousin and an occasional drive through Central Park." The *Herald* expected the 1862 season to "inaugurate a complete change in the character of our watering places."<sup>51</sup>

Perhaps the greatest change to Saratoga occurred the next summer when Irish immigrant and former boxer John Morrissey and his primary investor Commodore Vanderbilt opened the Saratoga Race Course. Morrissey made a fortune investing in Vanderbilt's Harlem train line, and he funneled his profits toward developing racing at Saratoga. He opened a "sporting" saloon where he served unrivaled game and champagne for free to the invited guests. Morrissey's restaurant attracted some of the wealthiest individuals, and it was not uncommon for the "ownership of fifteen millions of capital [to have their] legs under Morrissey's mahogany."<sup>52</sup> An unusual number of thoroughbred stables traveled to the spa for the season and the *New York Herald* reported that they comprised "the best racing

---

<sup>50</sup> Edward Hotaling, *They're Off! Horse Racing at Saratoga* (Syracuse: Syracuse University Press, 1995).

<sup>51</sup> "The Watering Places" *New York Herald*, June 6, 1862.

<sup>52</sup> [Article 4—no title] *Daily Picayune* (New Orleans), September 11, 1863.

stock” currently running in the United States. Despite the prominent racers and wealthy investors, early reviews of the track located about a mile from the town noted some shortcomings. A thinly planted grove of trees obscured the view of more than a quarter of the track’s nearly mile-long circumference. Nevertheless the opening races at the track appeared to be “quite a gala” with the grounds filled with a “number of splendid equipages...filled with gay and elegantly dressed ladies” and a viewing area populated by “[a] large number of the sporting and turfmen of New York, Boston, Paterson [New Jersey], Philadelphia and the Western states.”<sup>53</sup> Reviews of the event in the *Herald* made no mention of southern visitors, but the event drew the region’s attention. The New Orleans *Daily Picayune* and the Louisville *Daily Journal* both reprinted accounts of the “new aristocracy” after the season ended in September 1863.

Racing continued at Saratoga during the war with stables from the region supplement by stables in Ohio and Kentucky.<sup>54</sup> But the closing of the war transformed racing at the spa. The New York *Herald* which forecast decline just three seasons earlier “risk[ed] nothing” in predicting a “surpassingly brilliant” season in 1865. Hoteliers and landlords instituted improvements in anticipation of throngs of city people. The Lelands, who owned one of the city’s most prominent hotels, constructed an opera house to entertain their high-end guests.<sup>55</sup> Newspapers estimated between 8,000 and 10,000 spectators, “a large proportion of those were ladies,” attended the races daily.<sup>56</sup> Southerners appeared on the track that season, and the New York *Herald* noted the presence of John Minor Botta of Virginia, Thomas Purgead

---

<sup>53</sup> “The Turf,” *New York Herald*, August 6, 1863.

<sup>54</sup> “The Turf,” *New York Herald*, July 22, 1864.

<sup>55</sup> “Opening of the Summer Session,” *New York Herald*, May 31, 1865.

<sup>56</sup> “The Saratoga Races,” *New York Herald*, August 8, 1865.

of South Carolina, and Zeb Ward and Keene Richards of Kentucky.<sup>57</sup> “[F]ancy dress balls, fashions and fashionable gossip and horse racing” dominated conversations at the spa.<sup>58</sup> Saratoga was a place to consolidate industrial capitalists’ new economic and cultural power.

Visitors to Saratoga stayed at one of the city’s magnificent hotels or with friends. Samuel Riddle, who made his money in textile manufacturing and thoroughbred breeding, entertained so many guests during the summer racing season that he renovated his house. Riddle and his wife added extra bathrooms and sleeping porches to their mansion making the property “comfortable and livable.” The additional bathrooms at the Riddle house set their house apart from nearby rental homes that cost as much as four or five thousand dollars for the racing month. A railroad magnate compared his Saratoga rental to being on a ship: “We had to register our bathing hours for the one bathroom and be out in 15 minutes.” Social life at the Riddle home reflected the culture of Saratoga. Large elms provided shade for the secluded veranda and honeysuckles added a splash of color. Visitors gathered by the trickling fountain and sipped mint juleps and discussed the day’s races.<sup>59</sup>

Watching the races wasn’t the only draw at Saratoga. The biggest event at Saratoga became the annual yearling sales. The best breeders from around the country shipped their best young horses to the Spa. Prospective buyers ambled around the yearling stables taking inventory before the big sales. Harry Worcester Smith never met a “gamer lot of men” than the breeders from Maryland, Virginia, Kentucky, and Missouri who populated the sales ring.

---

<sup>57</sup> “The Saratoga Races,” *New York Herald*, August 9, 1865.

<sup>58</sup> “The Political Era,” *New York Herald*, July 20, 1865.

<sup>59</sup> Harry Worcester Smith, “Yearling Sales,” 10 Harry W. Smith. *Sporting reminiscences*, 1939, n.d. Accession #12652, Folder 2 Unpublished Reminiscences of Harry Smith, Special Collections University of Virginia Library, Charlottesville, Va.

These men differed from the wealthy owners of “hothouse farms” who tried to force success by outspending their competition. The fortunes of America’s aristocrats would survive a bad year at the Saratoga sales, but other breeders staked their livelihoods on the yearling sales. In robust years when the stock market was up and more idle rich adopted horseracing, millionaires battled one another for supremacy at Saratoga’s Fasig-Tipton sale pavilion.<sup>60</sup>

High class racing didn’t remain the exclusive domain of upstate resorts for long. In 1865, Leonard W. Jerome purchased the old Bathgate estate, located in what was then Westchester County but would later be annexed by New York City in 1873. The Bathgates owned the property for over fifty years, and the farm established its claim to thoroughbred history when in 1829 the celebrated racehorse Medoc was foaled there. A large hill on the property, known as “The Bluff,” gave the racetrack its distinctive design. Rather than a regular ellipse, the track bowed to avoid the Bluff’s grade. The bend of the course allowed for the construction of a club house complete with dining rooms and a ballroom. To the south of the club house, the Fort Hamilton band, regaled race day spectators with the then-fashionable music of Offenbach. On the other side of the track, opposite the club house, Jerome constructed a double-tiered grandstand divided into three sections. He designated the middle section for club members.

Coincident with the establishment of the Park, Jerome created the American Jockey Club. The club consisted of 1,300 members, 50 of whom were life members. Annual members paid dues of \$10 and had access to the club house and the “Subscription Rooms” in the city. The club maintained city quarters first at 920 Broadway and later moved to Madison

---

<sup>60</sup> Harry Worcester Smith, “Yearling Sales,” 1 Harry W. Smith. *Sporting reminiscences*, 1939, n.d. Accession #12652, Folder 2 Unpublished Reminiscences of Harry Smith, Special Collections University of Virginia Library, Charlottesville, Va.

Avenue. These Subscription Rooms provided a “well furnished” and “handsomely decorated” venue where members “met to learn the latest news of racing and to make bets.” Life members included the most prominent Americans. Some were southern turfmen, but most life members consisted of Northerners who made their fortunes in new industry’s like finance, railroads, and publishing.<sup>61</sup>

Jerome desired to build a course within easy reach of New York. (Saratoga Springs is about 200 miles north of the City and most visitors boarded steamers for their trip up the Hudson.) Including the purchase of the Bathgate property, Jerome spent over \$300,000 of his personal wealth building the racetrack. He shouldered the risk himself but allowed the “gentlemen whom he invited to form a Jockey Club” to take charge of the enterprise and share the profits.<sup>62</sup> Jerome’s choice for location proved successful. Reporters observed that Jerome situated the park “just the right distance for a drive” from the fashionable parts of New York. Moreover, unlike the popular tracks in Paterson, New Jersey or on Long Island, a visit to Jerome Park required no ferry. Visitors could cross the Harlem River at Macomb’s Dam or the macadamized King’s Bridge, and some patrons found making a circuit through “the most picturesque and delightful scenery” using both bridges as enjoyable as the races themselves.<sup>63</sup>

With its club house, bandstand, specially designated club seating, Jerome Park catered to New York’s prominent families. On race days, “stately four-in-hand” coaches “rolled gracefully through the members’ gate” carrying the city’s elites. As at the opera,

---

<sup>61</sup> Vosburgh, *Racing in America, 1866-1921*, 5.

<sup>62</sup> “Jerome Park,” *New York Times*, October 4, 1866.

<sup>63</sup> “Jerome Park,” *New York Times*, October 2, 1866.

visitors could “stare at [an] exhibit of the ‘wealth of nations.’” But Jerome Park attracted more than the city’s “gentle and well bred.”<sup>64</sup> The track’s proximity to New York and its ease of access allowed New Yorkers of all classes to attend the races. Rather than surround his course with a closed fence, Jerome insisted on an open picket, and spectators who could not afford or chose not to pay admission fees crowded the hillside overlooking the course on race days. The whole affair on Jerome Park’s opening weekend resembled “a grand picnic, in which all classes [were] fully represented.”<sup>65</sup> The inaugural races attracted more than one thousand women, a result which delighted organizers who believed that the presence of “ladies of fashion, ladies domestic, ladies professionally literary, ladies of birth and culture, ladies of dress, and ladies of more quiet tastes” would have an unparalleled effect on the popularity of the sport.<sup>66</sup>

All aspects of Jerome’s enterprise proved successful. Banner headlines in newspapers estimated 25,000 attendees for the inaugural meet, and the atmosphere exceeded that of meetings at both Saratoga and Paterson. The *New York Times* compared the atmosphere around the city as “feeling akin to that which stirs all England prior to the Derby races.” But perhaps the most successful of Jerome’s enterprise was the establishment of his Jockey Club. Populated as it was by titans of industry, the Club represented the most powerful and influential horse racing organization formed in the United States. The clerk of the course at Jerome Park, Charles Wheatly, eventually held that title at Saratoga and Monmouth Park in New Jersey.<sup>67</sup> The Northern racing circuit, which in 1866 already included races at Hoboken

---

<sup>64</sup> Vosburgh, *Racing in America, 1866-1921*, 4.

<sup>65</sup> “Jerome Park,” *New York Times*, October 2, 1866.

<sup>66</sup> “Jerome Park.” *Chicago Tribune*, September 19, 1866.

<sup>67</sup> Vosburgh, *Racing in America, 1866-1921*, 7.

and Paterson, New Jersey, Saratoga, New York, and Long Island, New York would eventually become one of the most important circuits in American thoroughbred racing.

Racing at Jerome Park motivated a surge in race meetings in the North. In 1867 Jerome Park's Jockey Club added three summer days of racing in addition to the regular spring meeting and an autumn meet that lasted five days. Saratoga hosted racing on six days. In New Jersey, racing fans could go to meets at Paterson, Hoboken, and Trenton. Horses raced at Hampden Park, Springfield, and Brookline in Massachusetts. A meeting appeared at Cranston in Rhode Island. The next year, Brooklynites started their own meeting at the Prospect Park Fairgrounds. Monmouth Park opened near Long Branch, New Jersey in 1870, and that fall racing resumed at the Pimlico racetrack in Baltimore. Four tracks opened in Ohio, two in Illinois, and one in Lawrence, Kansas, opened in the following years.<sup>68</sup>

With the success of Jerome Park and the meetings at Prospect Park (later known as the Gravesend track), New York entrepreneur John G. Chamberlain, New Jersey businessman John Hoey, and the president of the New Jersey Senate Amos Robins decided that the Garden State should keep pace in turf matters with its neighbor across the Hudson. Chamberlain purchased land near the village of Little Silver and a little more than three miles from the fashionable resort town of Long Branch on the Atlantic Ocean. Already renowned as a "seaboard watering place and spa," Long Branch became the site of some of the richest thoroughbred races in the country when the track opened its gate on 30 July 1870.<sup>69</sup> With "unexampled munificence," the local racing association proffered \$31,000 in purses and

---

<sup>68</sup> Vosburgh, *Racing in America, 1866-1921*, 12.

<sup>69</sup> [No author] *A Sight to See: Monmouth Park, from Mauve to Modern*, np 1954, 12. Monmouth Park Brochures, 1949-1954, National Sporting Library.

stakes for the inaugural meeting by the sea shore. Horses from Louisiana, Tennessee, Alabama, Missouri, Kentucky, Illinois, Ohio, Maryland, New York, New Jersey, and the Dominion of Canada all competed for the purse money at the Jersey Shore's first race meeting.<sup>70</sup> By 1887, the Monmouth Park association posted the largest amount of added money of any association in the country, and the richest stake that year was the Junior Champion Stakes held at Monmouth Park.<sup>71</sup>

In addition to large purses, Monmouth Park enjoyed ease of access from both New York and Philadelphia. Its location boasted "unequaled" access to New York.<sup>72</sup> The twenty-to forty-foot high Long Branch Bluffs had long attracted vacationers from New York, but the "myriads of fashionable visitors" to "The Branch" expressed their desire for a "properly and decorously managed" racetrack accessible from the watering place.<sup>73</sup> Six steamboat and railroad lines linked Monmouth Park to the larger population centers of New York and Philadelphia. Steamboats carried passengers from the New York Battery to Long Branch in one and a half hours. The Iron Steamboat Company offered single trips for 50 cents and round trips for 60 cents and advertised the "cool ocean breezes" riders would experience as they plied the sea in superior comfort than in the "hot railway cars" of its competitors. Other steamboat companies, like that of "Admiral Jim" Fisk, brought viewers to Long Branch in style. The 345-foot-long *Plymouth Rock* resembled a "New York hostelry." It had 32 suites, "mirrors and marble" in the bars, and gilded furniture. On Fisk's luxury line, visitors to

---

<sup>70</sup> "The Turf," *New York Times*, June 28, 1870.

<sup>71</sup> [No author] *A Sight to See: Monmouth Park, from Mauve to Modern*, np 1954, 26. Monmouth Park Brochures, 1949-1954, National Sporting Library.

<sup>72</sup> "The Turf," *New York Times*, June 28, 1870.

<sup>73</sup> "Racing at the Branch," *New York Times*, July 31, 1870.

Monmouth Park could “board the boat in the late afternoon, partake of the evening’s activities ashore, sleep aboard, and arrive in New York in the morning.”<sup>74</sup>

The Gilded Age excess applied to the racetrack as well. The prospect of morning swims, afternoon races, and evening promenades on the fashionable Ocean Avenue attracted racing’s patrons to the Jersey Shore. Monmouth Park’s grandstand accommodated approximately 7000 patrons. Its structure, a contemporary writer noted, “reminds one in no degree of the cheap and flimsy frame edifices generally erected on race-courses.” The 80-foot-wide hard-soil track accommodated the largest number of horses at the starting post of any track to that time.<sup>75</sup> The northern half of the grandstand invited “ladies accompanied by gentlemen,” while the southern portion allowed unaccompanied men a place to view races under the “highly ornamental” and Mansard-roofed grandstand. Boss Tweed promoted the track with “indefatigable ringing of the Tammany advertising bell” on New York streets the Friday before races opened at the Jersey Shore. The political boss even donated several hundred dollars for a race called the “Tweed Purse.”<sup>76</sup>

Going to the races on the track’s opening weekend proved more difficult than organizers intended. The racecourse sat about three miles inland from Long Branch, but as visitors to the track’s inaugural weekend found out, the Long Branch hacks called it four miles. Carriage drivers, sensing a market, upped their rates charging \$20 for a round trip carriage to the track. The extravagant fares demanded by the carriage men hurt gate receipts so much so that Chamberlain had to negotiate railroad cars for track patrons every half hour

---

<sup>74</sup> [No author] *A Sight to See: Monmouth Park, from Mauve to Modern*, np 1954, 16, 22-24. Monmouth Park Brochures, 1949-1954, National Sporting Library.

<sup>75</sup> [No author] *A Sight to See: Monmouth Park, from Mauve to Modern*, np 1954, 16-18. Monmouth Park Brochures, 1949-1954, National Sporting Library.

<sup>76</sup> “Racing at the Branch,” *New York Times*, July 31, 1870.

from 10AM to 3PM on racing days.<sup>77</sup> Nevertheless, racing at Monmouth Park grew to such heights that boosters called it “The Newmarket of America”—despite the numerous actual Newmarkets dedicated to racing south of the Mason-Dixon line.<sup>78</sup>

The increased interest in horseracing in the North brought along a corollary development in betting. Racing in the South reflected the pretensions of a genteel aristocracy. Similar in scale to a duel, owners raced one another in match races. An owner would challenge another owner’s horse to a race and stake a bet on the outcome. People watching had the freedom to make bets—and they often did—they paled in comparison to the bets between the owners. Gamblers negotiated their bets directly with their opponents. This type of gambling implied a familiarity between racegoers. Presumably bettors knew their opponents well enough to trust that they would not welch on the bet. Northeastern tracks’ accommodating tens of thousands of racing fans changed the scale of racing in the United States and altered the betting landscape. Crowds grew too large to bet only against one’s acquaintances. And betting against strangers engendered too much risk. Bookmakers arrived in North America coincident with the development of the larger tracks in the Northeast. Bookies arrived from England, and their appearance on the turf signaled the end of the era defined by friends making side bets with one another.<sup>79</sup>

By the 1870s, spending time in the North was just the cost of doing business in the thoroughbred world. When Henry Clay succumbed to tuberculosis in 1852, he left his thoroughbred horses to his son, John M. Clay. John Clay also inherited a portion Clay’s

---

<sup>77</sup> Ibid..

<sup>78</sup> Amory L Haskell, “Introduction,” in [No author] *A Sight to See: Monmouth Park, from Mauve to Modern*, np 1954, 16-18. Monmouth Park Brochures, 1949-1954, National Sporting Library.

<sup>79</sup> [No author] *A Sight to See: Monmouth Park, from Mauve to Modern*, np 1954, 18. Monmouth Park Brochures, 1949-1954, National Sporting Library.

estate, Ashland, which he renamed Ashland Stud to distinguish the property from Clay's mansion. At Ashland Stud, John Clay and his wife Josephine raised and bred thoroughbred horses. Although the couple worked as partners in the thoroughbred business, John Clay traveled extensively, bringing the horses to racecourses in Tennessee, New York, New Jersey, and Ohio while Josephine oversaw the farm and tended to her four daughters from a previous marriage. The itinerant lifestyle took its toll on Clay's health and the health of his horses. In places like New York City, Clay could stay at the luxurious St. Nicholas hotel on Broadway and Broome St., but at other tracks, accommodations were not nearly so comfortable. Occasionally Clay "slept on the straw in the stable loft" to be near his horses.<sup>80</sup> At Nashville, a place Clay was sorry to have come to, he found no accommodation near the track, and put himself up at the best hotel. He stayed in a "tolerable single room" while his employees "cook[ed] & [ate] at the stable" using river water for both horse and man.<sup>81</sup> Staying in New Jersey had the worst effect on Clay's health. Monmouth Park was a mere four miles from Ulysses S. Grant's summer cottage at Long Branch. Seething, Clay wrote to Josephine that he did not want to see the President, nor have any business with him.<sup>82</sup>

With the entry of northern capital into horse racing, Clay's enthusiasm for raising thoroughbred stock declined and the difficulty of his finances became clear. Again, it may

---

<sup>80</sup> James B. Clay to Josephine Clay, n.d, Papers of Josephine Clay, 1788-1927 Part I. Letters, Item 72 University of Kentucky Libraries, Special Collections and Archives; John M. Clay to Josephine Clay 20 Sep 1867 Papers of Josephine Clay, 1788-1927 Part I. Letters, Item 75 University of Kentucky Libraries, Special Collections and Archives.

<sup>81</sup> John M. Clay to Josephine Clay 7 Oct 1870 Papers of Josephine Clay, 1788-1927 Part I. Letters, Item 72 University of Kentucky Libraries, Special Collections and Archives; John M. Clay to Josephine Clay 20 Sep 1867 Papers of Josephine Clay, 1788-1927 Part I. Letters, Item 89 University of Kentucky Libraries, Special Collections and Archives.

<sup>82</sup> John M. Clay to Josephine Clay 19 Jun 1872 Papers of Josephine Clay, 1788-1927 Part I. Letters, Item 107 University of Kentucky Libraries, Special Collections and Archives.

have been the Garden State that dampened his spirits, as from Monmouth Park he wrote, “I am fully determined to train no more horses after this year on my own as well as your account.” He even sought a buyer for his entire string of horses, but he doubted he could get the \$10,000 that he was asking.<sup>83</sup> Bad luck beset his horses, and he could not tolerate “expending money wholesale” while Josephine ran a commercially successful farm in Kentucky. His venture through races in the northeast including races at Jerome Park in the Bronx, Saratoga, and Monmouth Park on the Jersey Shore cost him approximately \$1500, enough money that he was “strongly tempted to sell every d\_ one of the horses at auction...and come home.” As his expenses mounted, Clay resorted to borrowing money to keep himself afloat.<sup>84</sup> The world of horse racing was becoming more Northern and more capital intensive.

The great North-South races of the Antebellum years signaled a rift within the culture of horse racing. While Southerners produced more winning horses in these match races, the Northern victory in the Civil War ultimately shifted the geography of the sport northward. By the 1870s, industrialists had taken over horse racing, changing its scale and its geography. The organization of the national-scale Jockey Club in New York in the 1890s represented the dominance of industrial capital in the thoroughbred industry. Industrialists reimagined raising and racing thoroughbreds: by the end of the nineteenth century racing would be formal and urban. The thoroughbred would become a commodity, its appeal heightened by its distance

---

<sup>83</sup> John M. Clay to Josephine Clay 21 Jun 1872 Papers of Josephine Clay, 1788-1927 Part I. Letters, Item 108 University of Kentucky Libraries, Special Collections and Archives.

<sup>84</sup> John M. Clay to Josephine Clay 24 Jun 1872 Papers of Josephine Clay, 1788-1927 Part I. Letters, Item 109 University of Kentucky Libraries, Special Collections and Archives

from ordinary life. As we will see in the next chapter, racing on a national scale put pressure on industry regulators to standardize racing throughout the nation.

## Chapter Five: The Standard Thoroughbred New York, NY, 1865

Any horseman dedicated enough to rise at 4AM on a summer morning in Saratoga Springs, New York would find the areas around the famous racetrack buzzing with activity.<sup>1</sup> Against a backdrop of mist and fog before the summer humidity made such work oppressive, grooms and hot walkers moved their charges around the stable area, while exercise riders, the daredevils of the horse world, zipped their mounts through their morning workouts.

Richmond looked “remarkably well.” The railbirds thought he appeared stronger than he did weeks earlier when he won the Jersey Derby at Monmouth Park.<sup>2</sup> We know who showed up to training that morning, because a correspondent going by “Gladiateur” dashed off a missive on 31 July. Before heading up to Saratoga, “Gladiateur” read a circular announcing the new weekly paper published by the brothers Sanders Dewees and Benjamin Gratz Bruce and designed as a “First Class Weekly Journal devoted exclusively to the Sports of the Turf and Field, and to Agricultural and Literary Pursuits.”<sup>3</sup> The paper was set to debut 5 August 1865, and “Gladiateur” hoped his dispatch from the Spa would arrive at the Bruces’ New York City office in time to meet the print deadline.<sup>4</sup>

---

<sup>1</sup> For a discussion of the creation of a leisure landscape at Saratoga Springs, NY, see Jon Sterngass, *First Resorts: Pursuing Pleasure at Saratoga Springs, Newport, and Coney Island* (Baltimore: Johns Hopkins University Press, 2001). This also fits into a larger historiography of landscapes of leisure. See, for instance, Lawrence Culver, *The Frontier of Leisure: Southern California and the Shaping of Modern America* (New York: Oxford University Press, 2010); Michael Immerso, *Coney Island: The People’s Playground* (New Brunswick, NJ: Rutgers University Press, 2002). For international perspectives see Robert W. Rydell and Rob Kroes, *Buffalo Bill in Bologna: The Americanization of the World, 1869-1922* (Chicago: University of Chicago Press, 2005), and Paul Vanderwood, *Satan’s Playground: Mobsters and Movie Stars at America’s Greatest Gaming Resort* (Durham, NC: Duke University Press, 2010).

<sup>2</sup> Gladiateur, “The Stables at Saratoga,” *Turf, Field and Farm*, August 5, 1865, 11.

<sup>3</sup> “Prospectus of the *Turf, Field and Farm*,” *Turf, Field and Farm*, August 5, 1865, 15.

<sup>4</sup> *Ibid.*

With the conclusion of the Civil War, the Bruce brothers believed that “its exciting issues” would no longer occupy the minds of the population. Instead, the brothers concluded, the population would return to normalcy, and for two brothers from Kentucky, this meant horseracing. *Turf, Field and Farm* responded to the “new vigor” with which the population returned to sports of the field and turf. One of the strategies for inculcating the development of the breed was by excluding politics from its pages. The best way to instill unity among horse breeders was to avoid the “bitter aspersions” and “heated discussions” that politics brought.<sup>5</sup> The new publication would serve as a clearing house for pedigree information, a serialized *American Stud Book*.

While they certainly didn’t see themselves this way, the Bruces became standards-makers. They might have considered themselves boosters, or the more historically apt “brokers,” bringing the thrills of turf sports to urban areas and convincing a generation of manufacturers to dispatch some of their money to Kentucky.<sup>6</sup> *Turf, Field and Farm*, however, eventually calcified into the *American Stud Book*, the United States’ version of the United Kingdom’s *General Stud Book*. Sanders Bruce sold the rights of the *American Stud Book* to the Jockey Club in 1896. The Jockey Club, like its British counterpart, formalized the rules of racing in the United States, Canada, and Puerto Rico, and decreed that only animals listed in the a formally accepted stud book could run in Jockey Club-sanctioned races. The Bruce brothers saw themselves providing a service to thoroughbred racers and breeders. By recording and certifying pedigrees it became harder to engage ringers,

---

<sup>5</sup> “Prospectus of the *Turf, Field and Farm*,” *Turf, Field and Farm*, August 5, 1865, 15.

<sup>6</sup> William R. Leach, *Land of Desire: Merchants, Power, and the Rise of a New American Culture* (New York: Vintage, 1994); Beckert, *The Monied Metropolis*.

misrepresent the merits of a breeding stallion, or engage in any other kind of horse racing skullduggery.

When we think about how we can define a breed, there are essentially two ways to do it: by ancestry, like today's DNA tests, or by the expression of traits, what a modern geneticist would call phenotype. The Bruces worked on the *American Stud Book* to document the lineages of animals and to verify pedigrees. Tradition and assumptions about inheritance privileged the ancestral approach in the nineteenth century. As it turns out, the publication of the *Stud Book* and its de facto acceptance as the authority on race horse lineages helped to shape pedigrees, further consolidating bloodlines. How did the *American Stud Book* change horse and horse racing? Like any classificatory regime this one "should be recognized as the significant site of political and ethical work that [it is]."<sup>7</sup> The mastery of animals through knowledge systems represents a formalization and professionalization of American thoroughbred racing. While this did not have to be a story of sectional rivalries, the timing of the founding of the Jockey Club and the early drafts of the *American Stud Book* occurred after the Civil War. As we've seen, the Civil War had crippled the Southern economy. The new economy shifted the ownership of thoroughbred horses from a rentier class to industrialists. While the new class of thoroughbred owners did not provide financial support to Bruce's campaign to publish his stud book, they did form part of an emerging national elite. Centered in the cities of the northeast, the new American elite represented a new dominant culture in the United States. The creation of the *American Stud Book* and its transfer of ownership to the New York-based American Jockey Club represented the rise of elite northeastern culture as American culture.

---

<sup>7</sup> Bowker and Star, *Sorting Things Out*, 319.

Not only did standardization reflect the growth of culture on a national scale, but also it signaled a shift in the political economy of horse racing. Before the Civil War, racing was a local affair conducted between individuals. Buying a horse, one relied on the reputation of the seller for an accurate pedigree. The publication of the *American Stud Book* in 1868 reflected a change in practices and a shift in scales. Capitalism, driven by standards, dwelt in abstractions. This meant things like graded winter wheat, for sure, but also a thoroughbred horse that moved across space—and, as we’ve seen, time.<sup>8</sup> As the horse racing industry became increasingly capitalized in the wake of the Civil War, breed registries like the *American Stud Book* protected those investments by guaranteeing their authenticity and by turning them into, essentially, fungible commodities.

Standardization performs an important and often unsung role in economics and technological development.<sup>9</sup> Standards can ensure quality, as in testing freshly made concrete for the proper consistency.<sup>10</sup> Standards work behind the scenes making sure, among other things people get what they pay for. A thoroughbred is a thoroughbred anywhere in the

---

<sup>8</sup> Cronon, *Nature’s Metropolis*. See, in particular, chapter 3, “Pricing the Future: Grain.”

<sup>9</sup> This chapter relies on a growing literature on standards as historical creations. See Sabina Leonelli, “Packaging Small Facts for Re-Use: Databases in Model Organism Biology” in Peter Howlett and Mary S. Morgan, eds., *How Well Do Facts Travel? The Dissemination of Reliable Knowledge* (New York: Cambridge University Press, 2010); Andrew L. Russell, *Open Standards and the Digital Age: History, Ideology, and Networks* (New York: Cambridge University Press, 2014); Laurent Thévenot, “Governing Life by Standards: A View from Engagements” *Social Studies of Science* 39, no. 5 (October 2009): 793-813; Stefan Timmermans and Steven Epstein, “A World of Standards but not a Standard World: Toward a Sociology of Standards and Standardization” *Annual Review of Sociology* 36 (2010): 69-89; Andrew L. Russell and Lee Vinsel, “The Dynamic Interplay Between Standards and Routines: Lessons from Industry and Government” in Daniel M.G. Raff and Philip Scranton, eds., *The Emergence of Routines: Entrepreneurship, Organization, and Business History* (New York: Oxford, University Press, 2017); Lee Jared Vinsel, “Designing to the Test: Performance Standards and Technological Change in the US Automobile after 1966” *Technology and Culture* 56, no. 4 (November 2015): 868-894.

<sup>10</sup> Amy Slaton, *Reinforced Concrete and the Modernization of American Building, 1900-1930* (Baltimore: Johns Hopkins University Press, 2001), 77.

world, the same way a meter is a meter, or we trust the gallon measurement at the gas station or the produce scale at the grocer.<sup>11</sup>

Classification necessarily precedes standardization. Breeders, and the public alike, recognize the efficacy of breeds. Nobody could miss the differences, for instance, between a Great Dane and a Chihuahua, even though the two are taxonomically the same species. But different breeds mean different things to their owners. Harriet Ritvo asks, “Why, for example, were the Whippets raced by miners perceived as different from the Greyhounds raced by more genteel sportsmen in nineteenth-century England?”<sup>12</sup> The answer in Ritvo’s case is obviously class, but the history of taxonomy is full of examples of the arbitrary power of classification. In eighteenth century Britain thoroughbred breeders created a classification system. The system was consistent, classifying animals based on their origin and descent. The categories were mutually exclusive: a horse could not at once be a thoroughbred and some other type of horse. But classification is not an explanation.<sup>13</sup> This chapter opens the black box of classifying thoroughbreds to expose the political, economic, and personal factors informing the creation of the *American Stud Book*. In doing so, we find that the standardization of thoroughbred horses in the United States reflected a nationalization of culture. In the post-Civil War context, this culture originated in the northeast and reflected changes in the political economy of the nation.<sup>14</sup> If the last chapter told us that race horses

---

<sup>11</sup> Ken Alder, *The Measure of All Things: The Seven-Year Odyssey and Hidden Error That Transformed the World* (New York: The Free Press, 2003).

<sup>12</sup> Ritvo, *The Animal Estate*, 4; Ritvo, *The Platypus and the Mermaid*.

<sup>13</sup> For a discussion of Linnaean classification, see Chapter One, “Collecting, Classifying, and Interpreting Nature: Linnaeus and Buffon, 1735-1788” in Paul Lawrence Farber, *Finding Order in Nature*. For a discussion of the fallibility of classification, see Lisbet Koerner, *Linnaeus*.

<sup>14</sup> For a discussion of industrialization in the United States see, David Hounshell, *From the American System to Mass Production, 1800-1932: The Development of Manufacturing Technology in the United States* (Baltimore:

became industrial objects, this chapter examines the process by which they became true commodities.

The emergence in the eighteenth century of a dedicated sporting press in England made thoroughbreds knowable. Magazines like *Bell's Life in London* and the *London Sporting Magazine* not only informed readers of which horses ran and won races, but also became an archive for breeders looking for an edge. Reading such magazines “in connexion with the racing calendar” gave breeders a sense of “the opinion of the English public touching the comparative merits” of their racing horses. Like investors playing the stock market, breeders swam in data comparing pedigrees to race performances and trying to unlock the secrets of inheritance. Breeders chose horses guided more “by pedigree and performance than mere appearance.”<sup>15</sup> The data-based approach adopted by thoroughbred owners suggests an early horse racing application of data interpretation.<sup>16</sup> By looking to the past, breeders tried to predict the future. Demand for pedigree and performance data led to an explosion in sporting newspapers. Editors courted “the leading gentleman breeders in the Union” seeking to publish a “complete list” of their horses “with pedigrees, [and] descriptions.”<sup>17</sup> Reliable information sold papers, especially if it were exclusive.

---

Johns Hopkins University Press, 1985); Anthony F.C. Wallace, *Rockdale: The Growth of an American Village in the Early Industrial Revolution* (New York: Alfred A. Knopf, 1978).

<sup>15</sup> James K. Dalk to RA Alexander 3 Jul 1856, Box 14, folder 7 Alexander Family Collection Kentucky Historical Society.

<sup>16</sup> Analyses of so-called “big data” refer to data sets for which normal data analysis tools are insufficient. While the data sets approach  $n = \text{all}$  for many of the data points discussed here, the data are not so numerous as to require the designation “big.” For a discussion of some the history and some of the applications of big data see Viktor Mayer-Schönberg and Kenneth Cukier, *Big Data: A Revolution that Will Transform How We Live, Work, and Think* (New York: Eamon Dolan / Mariner Books, 2014). On the interpretive nature of data collection, see Lisa Gitelman, ed., *Raw Data is an Oxymoron* (Cambridge, MA: MIT Press, 2013).

<sup>17</sup> E.E. Jones to RA Alexander 14 Oct 1856, Box 14, folder 8, Alexander Family Papers, Kentucky Historical Society.

The nineteenth century saw an explosion of sporting weeklies. New York's "flash press" offered "mocking humor" and a "titillating brew of gossip" about prostitutes, theater people, and all kinds of sporting events. Patricia Cline Cohen, Timothy J. Gilfoyle, and Helen Lefkowitz Horowitz argue that these newspapers guided men of all ages through the "new world of unrestricted pleasure and commercialized leisure" found in the metropolis.<sup>18</sup> Horses and jockeys, already locally famous, gained national renown in the pages of the sporting press. Historian John Rickards Betts argues that these magazines played a vital role in the popularization of sport in nineteenth-century America. The earliest sports journals focused largely on horseracing. John S. Skinner began the *American Farmer* in 1819, widely considered the nation's first sporting paper, although its pages also contained practical agricultural advice. For his next effort, Skinner increased his coverage of horseracing and began printing the *American Turf Register and Sporting Magazine*. Vermonter William Trotter Porter issued the first number of the *Spirit of the Times* on 10 December 1831. Eight years later, Porter purchased the *American Turf Register* and introduced American audiences to Henry William Herbert. Herbert, whose literary pretensions forced him to adopt the pen name Frank Forester, came to the United States as a young Cambridge graduate. Skilled especially at capturing the scenes of outdoor sports, Forester became the first nationally famous sportswriter. In 1857, Forester penned the two-volume study of racing horses, *Frank Forester's Horse and Horsemanship of the United States and British Provinces of North America*.<sup>19</sup>

---

<sup>18</sup> Patricia Cline Cohen, Timothy J. Gilfoyle, and Helen Lefkowitz Horowitz, *The Flash Press: Sporting Male Weeklies in 1840s New York* (Chicago: University of Chicago Press, 2008), 1.

<sup>19</sup> John Rickards Betts, "Sporting Journalism in Nineteenth-Century America" *American Quarterly* 5, no. 1 (Spring 1953), 40-42.

Knowledge made horses valuable. Past performances and tabulated pedigrees proved a horse's worth. With magazines and racing calendars owners *knew* just how good their horses actually were. Prices for the "best horses," those with the "best blood" and "best performances" skyrocketed, and owners refused to sell at almost any price. The owner of the Flying Dutchman evidently refused £6,000 for the horse. Like parents searching for a popular toy in the midst the Christmas season, buyers worried that no amount of money would unite them with their desired horse. During the 1850s, owners had taken off the market the three or four horses "in most repute." For breeders like R.A. Alexander scarcity simply drove up prices. In one of the most famous bloodstock sales in horse racing history, Alexander paid Richard Ten Broeck \$15,000 for his champion horse Lexington.<sup>20</sup> The collection of historical data and the appearance of perfect knowledge created a speculative market for bloodstock.

Compiling historical racing data also contributed to specialization. From the importation of Bulle Rock to Virginia in the mid-eighteenth century, British horses were the class of the racing world. Changes in fashion, however, led to a divergence between English and American thoroughbreds. English breeders focused on speed. British sportsmen favored shorter races run in a single heat. Americans preferred longer races, the typical race consisting of four-mile heats repeated until one horse won two heats. By the mid-nineteenth century this difference in fashion led to a difference in horses. R.A. Alexander doubted that there was a single horse in England that could "run 4 miles and repeat." If there were one, he

---

<sup>20</sup> R.A. Alexander to Alec Alexander 10 Aug 1856, Box 14, folder 7, Alexander Family Papers, Kentucky Historical Society.

argued, it was an accident.<sup>21</sup> Principles of “like begets like” made way for more sophisticated attempts at cultivating specific running attributes like speed or stamina.

This chapter proceeds by discussing the calls for standardization and formalized rules within thoroughbred racing. I analyze Robert A. Alexander’s innovative approach to horse breeding at his family’s Woodford County, Kentucky, farm to suggest a grassroots recognition of the need for proper thoroughbred identification. After the Civil War, I pick up the Bruce brothers’ story in New York City. Their work at *Turf, Field and Farm* coincided with a shift in location for the biggest events in horse racing. New tracks appeared at Saratoga Springs, Westchester, and Elmont in New York and Long Branch, New Jersey. This chapter shows how standards contributed to placelessness by encouraging capital investment and allowing goods to flow freely from one region to another.

On 25 February 1805, Thomas Bullock, a Lexington surgeon, wrote to the *Kentucky Gazette* about a horse called Royalist. Bullock certified that the horse he sold Abraham Skinner “was got by Saltram, son of Eclipse, his dam by Herod.” On the dam side, Bullock traced eight generations back to Royalist’s “great great great great great great grand dam the Duke of Somerset’s Copper Mare.” Assuming his word were not enough, Bullock even appended a letter from London to bolster his claims. During the 1790s, Royalist acted as a breeding stallion in New Jersey, where, according to the London correspondent, “they are in the habit of breeding from the best English Turf horses.” Royalist gained a reputation as a “foal

---

<sup>21</sup> R.A. Alexander to Alec Alexander 10 Aug 1856, Box 14, folder 7, Alexander Family Papers, Kentucky Historical Society.

getter,” and “gentleman of integrity” admired him and brought their mares to him.<sup>22</sup> In nineteenth-century Kentucky, an owner’s word could link his horse in tail male to one of the foundation sires. Hearsay confirmed these claims as long as the rumor traced back to a man of standing. Horses like Royalist moved around in the eighteenth and nineteenth centuries. Foaled in Great Britain in 1790, he was brought to the United States later that decade. He stood in New Jersey until he moved to Kentucky.

Trusting one’s honor incentivized all sorts of chicanery. Horror stories – most probably apocryphal – appeared in the sporting press. One story is worth repeating both for its cruelty and the imagination of the ruse. In the 1780s, Colonel Jeptha Atherton brought the celebrated sprinter Mud Colt to North Carolina from Virginia. Atherton staked £165 against any horse under fourteen hands high. Allen Jones accepted the bid, bringing a fine horse and jockey to the course in a cart pulled by a small, rough-coated horse. The judges measured the entries and found Jones’s entry three-quarters of an inch too tall. Jones instructed his groom to pare down the horse’s hoofs and bring the racer to the proper height. With file and knife, the groom whittled the horse’s hoofs, but the animal still proved too tall. Jones commanded his groom to remove even more of the hoofs to bring the racer to the proper height. Blood began to appear from the poor horse’s feet, and Atherton observing the process confidently encouraged his friends to stake bets on Mud Colt. The contest seemed foreordained when Jones told his groom to unhitch the shaggy cart horse from the wagon and saddle him. This new entry measured well below the height limit, and bets backing Mud Colt mounted. The horses lined up at the mark, and when the race began, Jones’s cart horse immediately took the lead. He kept the pace up and won the race by twenty-seven feet. When Atherton’s

---

<sup>22</sup> “February 25, 1805 Royalist” in John L. O’Connor, ed., *Notes on the Thoroughbred from Kentucky Newspapers* (Lexington: Transylvania Printing Company, n.d), np.

supporters paid their bets, they learned that Jones had duped them. The cart horse, appropriately named Trick'em, came to the race ungroomed and pulling a cart specifically to deceive Atherton and Mud Colt's supporters.<sup>23</sup>

The sporting press reprinted this story not for its grotesque details about the treatment of animals; nineteenth-century American sporting papers continually called for a comprehensive system for Thoroughbred identification and classification. As prizes for horse races became more and more expensive, the incentives to cheat—to misrepresent a horse's age or parentage—increased as well. In other words, Mud Colt's supporters never would have staked their fortunes on the outcome of the race if they had accurate information about Trick'em. The British had recourse to the *General Stud Book* since 1793, but Americans did not have their analog until more than a half century later. Throughout the intervening period, editors at sporting magazines repeated stories like this one to generate support, both financial and popular, for comprehensive stud books.

Stud books, the British *General Stud Book* and eventually the *American Stud Book*, became the best way to insure the pedigrees of horses bought and sold for racing purposes. The market for thoroughbred bloodstock motivated the push for accurate pedigree information. James Weatherby, known to historians of horse racing as an “enterprising man” and a “bold purloiner of other men's ideas and property,” became the Keeper of the Match Book for the British Jockey Club in 1771. In that capacity, he recorded the results of races sanctioned by the Jockey Club and published them in an official Racing Calendar. His involvement in the growing export trade in thoroughbred bloodstock impressed on him the importance of a repository of accurate pedigree information. Weatherby's own commercial

---

<sup>23</sup> “Sports and Sportsmen of the Olden Time” *American Turf Register*, December 1831, 193-94.

interests and, as he stated, a “continued demand” for accurate information, resulted in an advertisement for his *General Stud Book*, which he promised would contain “with very few exceptions the pedigree of every horse, mare, etc., of note that has appeared on the Turf for the last fifty years and many of an earlier date.”<sup>24</sup>

The *General Stud Book* ultimately became the source of information regarding whether individual horses could be classed as thoroughbreds and therefore eligible for racing in Jockey Club sanctioned events, but this was not Weatherby’s original intention.

Weatherby never claimed that his *Stud Book* presented a list of pure bred or thoroughbred horses. Instead it listed those horses already engaged in horseracing. The tautological definition of thoroughbreds—that a thoroughbred is any horse whose pedigree traces back to existing families contained in the *Stud Book*—came later. Despite his reputation as an unscrupulous and self-serving man, Weatherby never entertained any aspirations of creating a breed. “Not a syllable was vouchsafed about the *character* of their blood,” Turf historian John Hervey writes, “just the correctness of their pedigrees as given was emphasized.”<sup>25</sup>

Although Weatherby made no claims to the purity of the horses included in his *Stud Book* his sloppy methods and personal interests led to numerous errors and omissions that reverberated through the horseracing world. On his own admission, Weatherby “made no original research” and later analyses of the text concluded that he “merely copied off” pedigrees included in old Racing Calendars.<sup>26</sup> Weatherby’s reliance on pedigrees included in older Racing Calendars resulted in the exclusion of many American horses who, despite

---

<sup>24</sup> “Genesis of the English Stud Book by John Hervey (“Salvator”) and Fred Becker,” 409 National Sporting Library and Museum.

<sup>25</sup> *Ibid.*

<sup>26</sup> *Ibid.*

having both dams and sires included in the *General Stud Book*, did not enter races on the British Turf. When thoroughbred breeders decided to define the breed as consisting of animals whose pedigree traces an unbroken line to animals already listed in the *Stud Book*, American horses were somewhat unfairly excluded from inclusion.

Within this context, American thoroughbred breeders decided they needed their own repository of pedigree information. Weatherby's idiosyncratic determinations of inclusion and exclusion stigmatized American horses as "half-bred," "mongrel," and of "impure blood."<sup>27</sup> In order to compete in the emerging global thoroughbred industry—because much like horses more generally, thoroughbreds radiated out from Europe following the paths of empire to cover the entire globe—the American race horse clique needed to establish the pedigrees of their animals on equal standing with those in other countries. Racing had taken hold on the Atlantic coast first and moved westward with the boundaries of the nation. This broad geographic distribution made the creation of a comprehensive stud book an arduous task.

As the number of breeders and the area affected by horse racing grew, a movement started to standardize the rules governing breeding and racing in the United States. The 1830s saw an increase in interest in thoroughbreds that rivaled the period between 1750 and 1790, when the "Virginia Passion" captivated the landed residents of the Old Dominion. By all measures, number of thoroughbreds foaled, number of racecourses built, and amount of purse money distributed, thoroughbred breeding in the United States rebounded from its nadir following the Revolutionary War. And to put the sport "upon a better footing," fans clamored for "some regular system or set of rules" to bring uniformity to all the jockey clubs

---

<sup>27</sup> Ibid.

throughout the union. Horses carried different weights in different states—sometimes they carried different weights on different tracks within the same state. Tracks varied in length and texture. Regional differences frustrated sportsmen who wished to compare horses across the nation. They voiced their concern in the *American Turf Register*: “How are they to judge of the relative powers of any two horses in the country? How are they to decide between them, if a selection of a stallion or a mare for a breeder is to be made?” Advocates of the sport proposed a national meeting to be held in Baltimore, and they advised “all clubs desirous of being represented” to appoint three delegates to attend the Maryland Jockey Club’s fall meeting.<sup>28</sup> A national jockey club would still be about six decades away, but the advertisement for the Maryland Jockey Club meeting affirms that the standardization impulse was there in the 1830s.

John S. Skinner, who had found success publishing the *American Farmer*, opened the first number of his *American Turf Register and Sporting Magazine* in 1829 with an agenda of compiling “an authentic record of the performances and pedigrees of the bred horse.” What worried Skinner most was not the practice of entering ringers in races, but the devastating effects that the loss of an old newspaper, memorandum book, or receipt of sale containing valid pedigrees could have on such valuable property. Stallion books and sales receipts could be forged, stolen, or consumed by fires. Lost documents meant that horses of the “highest and purest blood” could become “confounded with the vulgar mass of their species.” Skinner wanted to collect these vulnerable documents and publish them in the pages of his *American Turf Register*. To protect investments, horseracing in the United States needed a stud book to guarantee the identities of its thoroughbreds. But Skinner knew he couldn’t compile a

---

<sup>28</sup> “A Convention Proposed—To Establish Uniformity of Rules Appertaining to Betting, Weights, Distances, &c. &c. to be Held at the Central Course Next Autumn” *American Turf Register*, May 1834, 482-83.

valuable stud book on his own. To acquire “account[s] of performances on the American turf and the pedigrees of thorough bred horses,” Skinner relied on his readers, “gentlemen of talent and spirit,” to contribute race results, pedigrees, and anecdotes. True to his word, Skinner filled his magazine not only with pedigrees, but also with reprinted primary documents including newspaper articles, stallion advertisements, and breeding records dating to the mid-eighteenth century.<sup>29</sup> Despite Skinner’s ambitions, he never managed to collect all the nation’s pedigrees in a single volume.

Patrick Nisbett Edgar published the first attempt at compiling an American stud book in 1833. Edgar exhibited “more than ordinary talents, great perseverance, indefatigable industry and deep research” in compiling his book.<sup>30</sup> He immersed himself in the *General Stud Book*, Pick’s *Turf Register*, and various racing calendars. Although he acknowledged his debt to the British authors of the *General Stud Book*, he begrudged the relative simplicity of their effort. “How much more so,” Edgar wrote, “are the compiler’s labours accumulated; when matter is obliged to be collected from all parts of a VAST CONTINENT.” Making matters worse for Edgar was the American practice of calling so many horses by the same names, a practice often employed deliberately to perpetrate fraud.<sup>31</sup>

The size of the United States complicated Edgar’s efforts, but certain practices on the American turf also hindered his efforts. Because blooded horses arrived in Virginia before the publication of any official stud book, it was difficult to link American thoroughbreds to their place in the *General Stud Book*. Stud book compilers in Great Britain often overlooked

---

<sup>29</sup> J.S. Skinner, “Introduction” *American Turf Register and Sporting Magazine*, September 1829, 1-3.

<sup>30</sup> Patrick Nisbett Edgar, *American Race-Turf Register, Sportsman’s Herald, and General Stud Book* (New York: Press of Henry Mason, 1833), v.

<sup>31</sup> *Ibid.*, xi.

exported horses and excluded them from their registers. Moreover, in the days of early importations, breeders verified pedigrees with certificates from “private gentlemen and persons of honor and integrity.” To the consternation of a stud book compiler, many of these documents and utterances failed to survive the gauntlet of history creating a “great uncertainty” toward pedigrees in the nineteenth century. Horsemen had to acknowledge that they lost the chance of recording accurate pedigrees through the “extreme negligence of the breeders and sportsmen of ancient times.” Even among the very best horses, Edgar found himself unable to “extend [pedigrees] very far back, with absolute certainty.” When he did trace pedigrees very far back, to the seventeenth century say, he succeeded because of the survival of documents like “letters, papers, stud books, memorandums, and newspapers of deceased gentlemen, breeders, and sportsmen.” But Edgar also learned that just because a document survived didn’t mean they contained accurate information. He found “many errors” in the documents and corrected them when he could.<sup>32</sup>

Edgar’s interminably titled *American Race-Turf Register, Sportsman’s Herald, and General Stud Book* received great fanfare upon its publication. Seven blurbs written by prominent horse men precede any text in Edgar’s volume. Breeders and owners like John C. Goode from Mecklenburgh County, Virginia and James J. Harrison attested that the pedigrees they were familiar with appeared accurate within Edgar’s pages. Goode predicted that the new stud book, used in conjunction with John S. Skinner’s monthly *American Turf Record* would “accomplish the wishes of most of the breeders of the present day.”<sup>33</sup> Judge George Duvall, whose “memory runs back farther, and embraces more minute details” than

---

<sup>32</sup> Ibid., ix, xii.

<sup>33</sup> Ibid., vi.

any other horse racing aficionado, reviewed Edgar's six-dollar volume for Skinner's magazine. Edgar's work impressed the old judge, who noted only "a few errors" within nearly 600 pages of text.<sup>34</sup>

Despite the initial excitement surrounding Edgar's publication, the *American Race-Turf Register* did not enjoy enduring success as a stud book. Most likely this had to do with Edgar's unorthodox choices for presentation. Edgar's stud book contained two separate volumes. The first volume divided horses into five classes: English stallions; Arabians; Barbs; Spanish; and Horses, Mares, and Geldings, which have distinguished themselves as Racers on the American Turf. Only in volume two did Edgar replicate the method of the *General Stud Book*. He presented the ninth class, racehorses, as "a list of the American Mares and their produce, giving the exact pedigree of each; laid down on the same plan of the General Stud Book of England; including those which proved to be racers, as well as those which never ran; and also such as produced runners."<sup>35</sup>

While newspapermen worked to develop a national breed register, individual breeders did their part by keeping diligent records of the pedigrees and pairings on their farms. R.A. Alexander introduced changes to the breeding protocol at his Woodburn Stud that anticipated the industrial scale of thoroughbred breeding in the United States. Americans imported blooded horses from England, and the influx of expensive thoroughbreds rendered the breeding industry "inflated and top-heavy."<sup>36</sup> By 1856 R.A. Alexander had become famous

---

<sup>34</sup> "Mr. Edgar's 'American Race Turf Register, Sportsman's Herald, and General Stud Book'" *American Turf Register*, June 5, 1833, 242.

<sup>35</sup> Edgar, *American Race-Turf Register*, xiii.

<sup>36</sup> John Hervey, *Racing in America, 1665-1865*, vol. 2, 153.

for the horses he brought to Woodburn Farm. Word of Alexander's commitment to thoroughbred horses reached the offices of the *Spirit of the Times* in New York. An editor there, "having read so much" about Alexander's horses, wrote to Woodburn Farm for a complete list of Alexander's string including pedigrees, descriptions, and other "such matters of interest." The *Spirit* promised to publish the material "gratuitously." Including the complete pedigrees of one of the "leading gentleman breeders" would surely pique the interest of the horse racing community and boost circulation.<sup>37</sup>

Beginning in 1857, Alexander published an annual catalogue of his breeding stock. He included brief pedigrees of the mares and young horses at the farm. Publishing a catalogue, he figured, afforded people interested in thoroughbreds but who were "not so advantageously located for the purpose" the opportunity to participate in the breeding industry. Alexander offered proper boarding to mares sent to his farm. But Alexander insisted that owners who sent their mares to mate with the stallions standing at Woodburn "send their Pedigrees, that they may be recorded."<sup>38</sup> Turf historian John Hervey identified Alexander's request as the first of its kind in the United States. Alexander's move presaged the industrialization of thoroughbred breeding and the decades-long campaign to compile an American analog to the *General Stud Book*.

The first Woodburn catalog listed 31 fillies and mares of breeding age and a dozen younger fillies intended for the stud. Three years later the equine population of Woodburn Stud increased to 60 mares, 34 young fillies, and 22 colts too young to race. Through most of the Civil War, Woodburn's fortunes remained unmolested. Alexander sympathized with the

---

<sup>37</sup> E.E. Jones to R.A. Alexander 14 Oct 1856 Mss 93 Woodburn Farm Series Box 14 folder 8 Correspondence Oct-Dec 1856 Kentucky Historical Society.

<sup>38</sup> Ibid..

Union, which prevented Northern troops from seizing his horses, and the Union Jack that flew over the estate protected the property from Confederate raids. Horsemen moved their stock to Alexander's farm sometimes selling their best horses to Alexander outright.

Alexander acquired Australian from Southern supporter A. Keene Richards in this manner.<sup>39</sup>

Still the Civil War affected breeding operations at Woodburn Farm. The 1864 sale was, in Alexander's words, "almost a failure." John Hunt Morgan's men destroyed a railroad bridge and the threat of raids left "men from the more northern states" fearful.<sup>40</sup> That year two different groups of raiders attacked Woodburn.<sup>41</sup> Out of fear for their safety, Alexander sent his horses away to Canada and California.

The flight of horses from Kentucky's Bluegrass Region precipitated increased calls for a way to identify and authenticate thoroughbred horses. The horses Alexander sent to California, for instance, faced an uncertain fate. In December 1864, Daniel Swigert, a manager at Woodburn, wrote that eight horses left the farm, but exactly which horses went to California became difficult for the owner and his manager to ascertain. The list of horses sent to California appeared in *The Spirit of the Times*, but Alexander's manager questioned the list. For one thing, the list "was undoubtedly revised" and "made printable presumably by some one in the 'Spirit' office." Horses that appeared on this list, raced under different pedigrees after being purchased. Pedigrees appearing in print exhibited "ignorance," getting "fillies mixed in his mind and lacking the sire of one & dam of the other." In one case, a

---

<sup>39</sup> "Horse Breeding on Modern Pattern Began Century Ago on Alexanders' Woodburn Farm" Mss 93 Woodburn Farm Series Box 17 Folder 3A Lexington (Horse) 20<sup>th</sup> Century Kentucky Historical Society.

<sup>40</sup> Letter, R.A. Alexander to A.J. Alexander, 8 July 1864, Mss 93 Woodburn Farm Collection, Kentucky Historical Society.

<sup>41</sup> Letter, R.A. Alexander to Henry Deedes, quoted in Dan M. Bowmar III, *Giants of the Turf: The Alexanders, the Belmonts, James R. Keene, the Whitneys* (Lexington, KY: The Blood-Horse, 1960), 17-21.

contract called for one two year old filly by a Ringwood colt out of Hope. The scribe copied this as “a colt by Ringold.” Other inconsistencies and ambiguities color Civil War-era identification. One mare’s description read “for show, but not to go.” Whether this meant that the horse did not make the trip to California is unclear. With the racing industry in upheaval in the aftermath of the Civil War, breeders issued a renewed call for a system of authenticating pedigrees.<sup>42</sup>

Kentuckian Colonel Sanders D. Bruce resolved to compile the nation’s pedigree data into a stud book in 1840, but the broad geographic distribution, the large thoroughbred population, and the Civil War delayed publication of the first *American Stud Book* until 1868. This volume included only horses whose names fell in the first part of the alphabet, from A through K. Bruce continued revising and updating his *American Stud Book* until 1894 when he sold the rights to the newly formed American Jockey Club headed by August Belmont II. When Bruce began his nearly sixty-year project, the only thing resembling it in the United States was Volume I of the *American Race Turf Register, Sportsman’s Herald and General Stud Book* published in 1833 by Patrick N. Edgar. Edgar’s book, because of its errors and its eccentric presentation, never generated much success among breeders and owners in the United States.<sup>43</sup> In Edgar’s zeal to complete his project, he allowed himself to commit what horse racing historian Fairfax Harrison called “unforgiveable sins against scholarship.” Edgar took liberties in correcting his source material without indicating where “his individual

---

<sup>42</sup> T.B. Armitage to RA Alexander, nd [1864] Alexander Family Papers Box 18 folder 11 Kentucky Historical Society.

<sup>43</sup> Salvator [John Hervey], “Studies in the Stud Book,” *The Thoroughbred Record*, 1941, 334, at the National Sporting Library.

contributions began and ended.”<sup>44</sup> Bruce tasked himself with cobbling together a comprehensive census using the only available extant sources: breeders’ certificates (sometimes subject to inconsistencies and the trustworthiness of the breeders), bills of sale, printed advertisements, and word of mouth. Working with his brother, Benjamin, Bruce leveraged his position as publisher of *Turf, Field and Farm* to gather data for his stud book.

In the magazine’s first number, when its “head [was] just above the water,” the Bruces published an entreaty to their readers, acknowledging that their enterprise could not succeed without the input of its readers.<sup>45</sup> They asked the nation’s thoroughbred breeders to submit news of upcoming races and, most importantly, the pedigrees of their horses. While they relied on breeders for information, the Bruces still exercised editorial control over the content: “We will exercise a strict and impartial caution upon the publication of all pedigrees offered, and in order to prevent imposition, we will refuse the publication of all information unless coming from a known and respectable quarter, or which cannot be authenticated either from the existing American authorities or the English Stud Book.”<sup>46</sup> The brothers welcomed corrections to errors in the published list. And every week the magazine carried a column entitled “American Stud Book,” which listed dams and their produce, according to the style in the *General Stud Book*.<sup>47</sup>

The Bruce brothers may have hailed from Kentucky, but in 1865, they kept an office at 62 Liberty Street in Manhattan. They ran *Turf, Field and Farm* out of the lower Manhattan office near the present-day site of the World Trade Center and 9/11 Memorial. Despite his

---

<sup>44</sup> Harrison, *The Background of the American Stud Book*, 29.

<sup>45</sup> “Salutation,” *Turf, Field and Farm*, August 5, 1865, 8.

<sup>46</sup> “American Stud Book,” *Turf, Field and Farm*, August 5, 1865, 5.

<sup>47</sup> “The Stud Book,” *Turf, Field and Farm*, November 4, 1865, 217.

new surroundings, Sanders Bruce never really left Lexington. Born in 1825, he graduated from Transylvania University in 1846. His sister married the famous Confederate horse raider John Hunt Morgan. Bruce had even more ties to the Confederacy—his brother and partner, Benjamin, fought for the South—but Sanders remained loyal to the Union. At the outbreak of the war, he became Inspector General of the Union Home Guard of Kentucky and later Colonel of the Twentieth Kentucky Regiment of the Infantry Volunteers. Bruce resigned his post in 1864 “on account of heart trouble.” With his brother Benjamin and literary editor Hamilton Busbey, Bruce issued the first number of the *Turf, Field and Farm* on 5 August 1865.<sup>48</sup> Bruce grew *Turf, Field and Farm* into one of the top three leading newspapers in New York. To stress the popularity of horseracing in post-Civil War New York, one of the other top newspapers, the *Spirit of the Times*, covered primarily issues related to horseracing.<sup>49</sup>

By most accounts, Bruce conducted his research with an eye toward truthfulness, but as in any endeavor with such a broad scope, the project contained setbacks, errors, and omissions. Much of this had to do with source material. Horse breeders had an interest in representing their horses as purebreds, and they would often misrepresent their horses in the press. Other times even careful owners could succumb to misinformation and confusion. For example, John Randolph kept some of the most sought-after horses in North America at his Roanoke Plantation in Virginia. Randolph recalled that he had, despite keeping a personal stud book, “given a wrong pedigree in more instances than one.”<sup>50</sup> Moreover, because of

---

<sup>48</sup> “Col. S.D. Bruce,” *New York Times*, January 23, 1898.

<sup>49</sup> Betts, “Sporting Journalism in Nineteenth-Century America,” 39-56.

<sup>50</sup> *Ibid.*, 39.

Randolph's stature as a wealthy and influential breeder horse racing fans often treated his proclamations as indisputable. Until the end of his life, Roanoke would insist "confidently and thunderously" on the rectitude of certain pedigrees. Fairfax Harrison noted that "some of [his] failures of criticism were crystallized and still remain in the official *American Stud Book*" and "even in his own day there were public demonstrations that Randolph's technical opinions were not infallible."<sup>51</sup> The plethora of source material, often incomplete or even contradictory, contributed to Bruce's difficulty in producing a comprehensive *American Stud Book*. Students of horse racing, which maintains a dedicated population for whom poring over horse racing minutia is an avocation, discovered errors and duplicate entries. Duplicate entries appeared for horses based on differing accounts within the source material. Critics referred to Bruce as a "collector" who "recorded all he found and thus honeycombed his book with material which had been rejected a generation earlier."<sup>52</sup>

Patronage networks—Bruce moved to New York from Kentucky following the Civil War and spent a large portion of his money financing his magazine, *Turf, Field and Farm*—certainly aroused suspicion. The famous breeder R.A. Alexander withheld financing for the project worrying that if it were known he had paid for the book, it would be dubbed "'Alexander's Stud Book,' its pages searched for evidence of favoritism shown him, and its success greatly jeopardized."<sup>53</sup> New Yorkers, new to the sport, lacked the concept of *noblesse oblige* that motivated Southern horse breeders to fund projects related to recording horse racing's history. The motivation to please financial backers crept into Bruce's

---

<sup>51</sup> Ibid., 40.

<sup>52</sup> Ibid., 60.

<sup>53</sup> Salvator [John Hervey], "Studies in the Stud Book," *The Thoroughbred Record*, 1941, 334, at the National Sporting Library, 238.

*American Stud Book*, when according to Fairfax Harrison, “Bruce himself ‘revised’ individual pedigrees with the intention of flattering influential breeders of his time.”<sup>54</sup> Bruce assumed the role of court of last resort for discussions of pedigree, and, as we have seen, he allowed social and economic considerations to influence his determinations.

As northern racing supplanted the sport in the South, Sanders Bruce published his first volume of *The American Stud Book*. While Bruce admitted his book wasn’t “infallibly correct,” he maintained it was “as accurate as possible.” The difficulty in producing an accurate stud book lay in the want of data. Bruce spent twenty years compiling data from breeders and owners through constant entreaties in his magazine. Unlike earlier compilers, Bruce modeled his stud book after the *General Stud Book*, a decision that insured the popularity and success of *The American Stud Book*.<sup>55</sup> When Weatherby compiled the *General Stud Book* he adopted a peculiar but useful method. He listed brood mares alphabetically with their produce. The first entry in an 1839 edition of the *General Stud Book* identified A-La-Grecque as as got by Regulus in 1763. Related to the Godolphin Arabian through Regulus, A-La-Grecque produced nine foals over thirteen years. Her entry, like all the rest, gives a brief version of her pedigree. Each foal listed has a year, the sex of the foal and its color, its name if given one, and the owner or breeder.<sup>56</sup> By following the plan of the *General Stud Book*, Bruce copied the style “adopted by a people most eminent in every thing pertaining to the blood horse” and for whom “heraldry is a science.”<sup>57</sup>

---

<sup>54</sup> Harrison, *Background*, 59.

<sup>55</sup> Bruce, *American Stud Book*, v-vi.

<sup>56</sup> *General Stud Book, Containing Pedigrees of Race Horses, &c. &c. from the Earliest Accounts to the Year 1826, Inclusive* (Brussels: Meline, Cans and Co., 1839), 1.

<sup>57</sup> Bruce, *The American Stud Book*, vi.

**A-LA-GRECQUE,**

**Bred by Mr PRATT, in 1763, got by Regulus—her dam by Allworthy—grandam by the Bolton Starling—great grandam, Dairy Maid, by Bloody Buttocks—great great grandam, Bay Brocklesby, by Old Partner—great great grandam, Brocklesby, by Greyhound, out of Brocklesby Betty.**

YEAR.	PRODUCE.	OWNER OR BREEDER.
1772	ch. c. <i>Pontac</i> , by Marske	} Sir L. Dundas
1773	f. by ditto (dam of <i>Tescer</i> )	
1774	ch. c. by Chatsworth	
1775	f. by ditto	
1777	ch. c. <i>Arske</i> , by ditto	} Sir T. Dundas
1780	b. c. <i>Balloon</i> , by Telemachus	
1781	b. f. <i>Emma</i> , by do. (dam of <i>Applegarth</i> )	
1783	b. f. <i>Maria</i> , by do. (dam of <i>Marianne</i> )	
1784	ch. c. <i>Templar</i> , by Magnct	

*Figure 13 An entry from the General Stud Book*

In compiling the *American Stud Book*, Bruce followed the convention in the United States of considering a blooded horse a thoroughbred if it possessed an “uncontaminated pedigree for five generation.” But Bruce also included members of some of the “most distinguished families on the American turf” whose pedigrees did not extend even that far back. Excluding those horses, Bruce argued “would have wrought manifest injustice.”<sup>58</sup> Like his British predecessor Weatherby, Bruce intended not to establish a breed, but to compile those horses prominent in American racing. Over twenty years, he rescued pedigrees “by slow and labored effort from the dim, uncertain annals of the past.” Admitting the value of pedigrees, Bruce recognized the “vital importance of having them strictly correct.” By 1868, Bruce presented his *American Stud Book* to the racing public as an effort to “eradicate long accepted error and to harmonize fact with fact.”<sup>59</sup>

Bruce could point to several successes to justify the enduring need for publishing the *American Stud Book*. Just look at the Godolphin Arabian and Marske, Bruce argued. Had it

---

<sup>58</sup> Ibid..

<sup>59</sup> Ibid., x.

not been for the accidental covering of Roxana which resulted in the successful racing horse Lath, the Godolphin would have remained a teaser stallion, dying unknown. The story of the Godolphin Arabian's overlooked pedigree served as a fantastic reminder to thoroughbred breeders about the necessity of documenting a horse's breeding. Marske stood for a half guinea and sold for twenty until he sired Eclipse, one of history's most successful breeding stallions. After Eclipse proved himself on the track, Marske garnered one thousand guineas, and his owner charged one hundred guineas per leap.<sup>60</sup>

Critics adopted a "one drop" approach to the purity of the thoroughbred gene pool. They referred to sires and dams as "mongrels," "hybrids," and "mullatos." Mixed blood, bred "in and in for ever" could never become pure. This line of reasoning contributed to nearly apocalyptic denunciations of the breeding industry. The *Field* predicted a "collapse of the English thoroughbred" if breeding according to stud books continued. And Sir James Penn Boucaut worried that further inbreeding of the thoroughbred line would make the thoroughbred useless "except as a gambling machine."<sup>61</sup> Boucaut's critiques, if you subtract the obvious racial overtones, reflect more recent—and more reasoned—criticisms of thoroughbred breeding. Doug Antczak, a Cornell veterinary immunologist specializing in horses, told a reporter for *Science* in 2014 that "Thoroughbreds are almost like clones compared to other breeds."<sup>62</sup> Today's fastest thoroughbreds possess incredible musculature

---

<sup>60</sup> S.D. Bruce, *The Thoroughbred Horse: His Origin, How to Breed and How to Select Him* (New York: Turf, Field, and Farm, 1892), viii.

<sup>61</sup> (Sir) James Penn Boucaut, *The Arab Horse, the Thoroughbred, and the Turf* (London: Arthur F. Bird, 1912), 139.

<sup>62</sup> Ann Gibbons, "Racing for Disaster? Breeding Thoroughbreds for Speed May Harm Their Health," *Science* 13 Jun 2014, 1213.

balanced on increasingly thinner legs and smaller hooves. The resulting animals are top-heavy and have limbs “more liable to break at high speed.”<sup>63</sup>

With the establishment of the American Jockey Club in 1894, the stewards of the newly formed club replaced Bruce as the arbiters of the thoroughbred designation. The Jockey Club purchased the rights to Bruce’s *American Stud Book* for \$35,000 and beginning with Volume VII, the name of the Jockey Club appeared beneath the gilt title of the *American Stud Book*. The Jockey Club’s ownership of the *American Stud Book* changed the definition of thoroughbreds in the United States. Before 1897, when Volume VII appeared, there had been no breeding requirements for horses to enter races. John Hervey writes, “Any horse, however bred, was eligible to perform at any meeting, if otherwise in good standing.”<sup>64</sup> Bruce had created standards for inclusion in his books, but he only required five crosses with approved thoroughbred blood. This allowed for animals with pedigrees that did not trace their pedigree in all removes to animals already recorded. The Jockey Club discontinued this practice, and in their published volumes, they accepted no animals unless fully qualified through previous registration of their sires and dams. The Jockey Club’s rules mirrored those in place in England. With the Jockey Club’s assumption of the *American Stud Book*, new rules emerged that mandated that all animals performing in recognized meetings must be eligible for and recorded in the *American Stud Book*.

The task of compiling the *American Stud Book*, an effort that took Colonel Sanders Bruce decades, resulted in more than a census of thoroughbred horses in the United States. Bruce’s work defined and created the thoroughbred breed. The process of classifying

---

<sup>63</sup> Ibid., 1214.

<sup>64</sup> Hervey, “Studies,” 289.

animals, particularly defining a breed, created new animals. By closing the bloodlines that are admitted to the *American Stud Book*, Bruce, the Jockey Club, and their supporters directed the evolutionary history of these animals. Inclusion or exclusion in the Stud Book determined which horses became thoroughbreds, the equine elite. Horses that appeared in the *American Stud Book*, could cast off their burdens and assume positions on the racetrack or the breeding farm.

By the 1870s, the center of gravity in the thoroughbred world moved north and east. The Jockey Club, which oversaw racing and breeding regulations, operated out of New York City. Its members consisted more of industrialists and bankers than of country gentleman. With the creation of the *American Stud Book*, they remade their horses, preparing them to become industrial animals, tradable, movable, and salable commodities.

## **Chapter Six: The Thoroughbred in the Garden San Simeon, CA, 1887**

George Hearst was one of those people who came to represent the history of California. Born in rural Missouri in 1820, he left for California in 1850 looking for gold. Nine years later, he bought a one-sixth interest in a mine in the Washoe district of the Utah territory (which would eventually become part of the state of Nevada). There, Hearst struck it big on the Comstock Lode. After returning to California from a trip to Missouri, Hearst became a member of the California State Assembly where his mining background served him well on a special Committee on Mines and Mining Interests. In 1865, he bought Rancho Piedra Blanca, a 48,806-acre Mexican land grant, at San Simeon. Following his first term as a US Senator in the Fall of 1887, Hearst returned to California and told his friends, “I want a small but high-class stable, for racing at San Francisco in the winter and at New York in the summer.”<sup>1</sup>

The bidding for King Thomas, a bay yearling got by King Ban out of Maud Hampton, opened at \$5,000. Sixteen days earlier King Thomas had boarded a train in Sacramento, California, along with seventy-four other yearlings from James Ben Ali Haggin’s Rancho del Paso stock farm near the California capital. The express trip, in specially designed rail cars, cost Haggin \$10,000. More frightful than the cost was the risk of injury. Despite the drafty and cold railcars, Haggin’s yearlings arrived in New York City with few casualties. Haggin made his string available at Jerome Park in the Bronx for inspection by August Belmont and other members of the New York turf elite who would turn out for the auction held at Madison Square Garden (then a roofless structure located near Madison Square at the intersection of Broadway and Fifth Avenue at Twenty-Third Street in Manhattan). Haggin

---

<sup>1</sup> Carleton F. Burke, “Pastime of Millions, [part i],” *Thoroughbred of California* June 1950, 482, 484-86 in Alexander Mackay-Smith Papers MC0040 Box 10 folder 2 National Sporting Library.

built box stalls and a large sale ring, and on the morning of 16 June 1890, the national horse racing elite rubbed elbows and ate the boned turkey and ham sandwiches Haggin supplied while quaffing a seemingly limitless supply of “champagne, beer and all manner of soft drinks.”

When the gavel fell on the sale of King Thomas the bidding had reached \$38,000, and Lucien Appleby had bested Senator Hearst. Nobody in the world paid more for yearlings than the English, but King Thomas’s \$38,000 price tag shattered all the previous records, British or otherwise. The day after the bidding war, Senator Hearst offered Appleby and his partner \$40,000 for King Thomas. The pair took the \$2,000 profit, and King Thomas joined the Hearst stable trained by Matt Allen. Hearst bought ten more horses at the sale. The Senator planned to ship all the colts back to California to be “developed and trained, and to finally become the foundation for a great breeding stud.”<sup>2</sup>

What was it about California that engendered such high prices for thoroughbreds and such loyalty that Senator Hearst risked injury to his new stock by subjecting the young horses to a second transcontinental railway journey? The risks of train travel gave even James Ben Ali Haggin pause. Before the sale, Haggin considered hiring a special train fitted with sleeping and dining cars and “inviting noted turfman to take a free jaunt across the continent to Sacramento.”<sup>3</sup> What distinguished California from other thoroughbred centers like New York and Kentucky? The answer had as much to do with imagination as soil or sunshine. California was the land of boosters, and that proved no different within the horsey set.

---

<sup>2</sup> The preceding anecdote comes from Carleton F. Burke, “Pastime of Millions, [part iv],” *Thoroughbred of California* June 1950, 482, 484-86 in Alexander Mackay-Smith Papers MC0040 Box 10 folder 2 National Sportling Library.

<sup>3</sup> *Ibid.*, 486.

In a previous chapter, we saw how geology, ecology, political economy, and human agency created the Inner Bluegrass in the image of the horse. The areas of California that became thoroughbred havens did not enjoy the biological and geological advantages that propelled Kentucky to the forefront of the horse industry in the nineteenth century. Instead, California capitalists scooped up horses (because that's what wealthy people did) and forced the landscape to support them with extreme techno-scientific intervention. With chemical fertilizers, standardized feed, and complex irrigation systems, Californians brought the Bluegrass to the west. To paraphrase Mark Fiege's estimation of the Snake River valley, the thoroughbred was made from many things: social institutions, economic relationships, protein, muscle, chemicals, bone, and sinew, but they were also endowed with a healthy dose of imagination. They are products of the human mind. Breeders, in Fiege's terms, "made sense of the material reality that surrounded them; envisioned the future and its possibilities, struggled to comprehend the present, and dreamed of the past."<sup>4</sup> By the twentieth century, thoroughbreds and landscapes that supported them became managed by science. Standardization made thoroughbreds mobile, but chemical fertilizers, irrigation systems, and commercial feeds made them at home anywhere.

The history of California is the history of land speculation. Land grants from the Mexican period divided the state into a patchwork of expansive mission properties and *ranchos*. Before 1833, the Spanish, and later Mexican, government granted around 300 land titles of several thousand acres each. During the American period, many *rancheros* became land-rich and cash poor, and were willing to sell their land to the Anglo capitalists flooding into the state. Robber baron capitalists and wildcatting oilmen living in whitewashed

---

<sup>4</sup> Fiege, *Irrigated Eden*, 199.

*haciendas* defined the state by the end of the nineteenth century.<sup>5</sup> In *Ecology of Fear* and *City of Quartz*, historian Mike Davis examines the relationship between capitalism, the environment, and urban growth in southern California. Angelenos created “a faux landscape celebrating a fictional history from which original Indian and Mexican ancestors have been expunged.”<sup>6</sup> The introduction of thoroughbreds to the California landscape contributed to this image. In a rapidly urbanizing state, raising and racing thoroughbreds reflected rural gentility.<sup>7</sup> The vast tracts of available land in California and the state’s extreme inequality enabled the newly empowered bourgeoisie to enact their aristocratic fantasies. Thoroughbreds also meant big money. Horses raced for purses raised and offered by local jockey clubs, and breeders and owners paid big bucks for access to the best bloodlines.

California entered the Union in 1850 as the thirty-first state. Between this date and 1910, ecologist Raymond Dasmann argued, California experienced a series of environmental changes unrivaled since the retreat of the last glacial maximum.<sup>8</sup> Donald Worster insists that “the changes were not the work of blind forces of nature but rather of conscious, rational men.” When the first white colonists set upon California’s Central Valley, a land that is today

---

<sup>5</sup> The historiography of Los Angeles is full of examples about the deliberate erasure of the city’s Mexican past. For examples of this literature, see Phoebe S. Kropp, *California Viega: Culture and Memory in a Modern American Place* (Berkeley: University of California Press, 2008); William Deverell, *Whitewashed Adobe: The Rise of Los Angeles and the Remaking of its Mexican Past* (Berkeley: University of California Press, 2004). For a discussion of race-making and immigration policy in California see Mae M. Ngai, *Impossible Subjects: Illegal Aliens and the Making of Modern America* (Princeton: Princeton University Press, 2014); Mark Brilliant, *The Color of America Has Changed: How Racial Diversity Shaped Civil Rights Reform in California, 1941-1978* (New York: Oxford University Press, 2010). For an overview of Southern California history, see Carey McWilliams, *Southern California: An Island on the Land* (Salt Lake City: Peregrine Smith, 1946).

<sup>6</sup> Mike Davis, *Ecology of Fear: Los Angeles and the Imagination of Disaster* (New York: Vintage, 1999), 12. For a consideration of Los Angeles in the modern (and postmodern) era, see Mike Davis, *City of Quartz: Excavating the Future in Los Angeles* (New York: Vintage, 1990).

<sup>7</sup> Eric Hobsbawm and Terence Ranger, eds., *The Invention of Tradition* (New York: Cambridge University Press, 1992).

<sup>8</sup> Raymond F. Dasmann, *The Destruction of California* (New York: Macmillan, 1965).

one of the most agriculturally productive landscapes on earth, they found a “miserable country.” In fact, during the Mexican period, most settlers avoided the Central Valley because it was too hot, too dry, and too miserable. White settlers established complex systems of water management to bring to the valley techno-economic rationality. There, Worster describes a culture too arrogant to accept the limits imposed by nature.<sup>9</sup> Additionally they used a host of pesticides and fertilizers to supplement the soil and control bugs, making farming a technological industry.<sup>10</sup>

This chapter begins with a discussion of the thoroughbred in California at the end of the Mexican period and into statehood. It then pivots to a case study of a farm in San Diego County, where Charles E. Cooper established his Rancho San Luis Rey thoroughbred farm. Wealthy Californians intervened in the material world to make real the landscapes of their imaginations complete with thoroughbreds adorning semi-arid valleys. Like chapter three, this is another chapter about belonging, but instead of justifying their belonging by appealing to their biology or a region’s geology, California horse breeders altered their landscape to their horses’ images.

California’s entry into the Union brought an increased interest in thoroughbreds. While the Spanish residents of Alta California loved racing horses—Don Andreas Sepulveda brought

---

<sup>9</sup> Donald Worster, *Rivers of Empire: Water, Aridity, and the Growth of the American West* (New York: Oxford University Press, 1985), 6, 9-10. For a history of irrigation in Idaho, see Mark Fiege, *Irrigated Eden*. See also, Donald Worster, *Dust Bowl: The Southern Plains in the 1930s* (New York: Oxford University Press, 2004).

<sup>10</sup> On chemical hazards see Linda Nash, *Inescapable Ecologies: A History of Environment, Disease, and Knowledge* (Berkeley: University of California Press, 2006); Rachel Carson, *Silent Spring* (Boston: Houghton Mifflin, 1962). On pesticides see Edmund Russell, *War and Nature: Fighting Humans and Insects with Chemicals from World War I to Silent Spring* (New York: Cambridge University Press). On the construction of a California landscape, see Laura Barraclough, *Making the San Fernando Valley: Rural Landscapes, Urban Development, and White Privilege* (Athens, GA: University of Georgia Press, 2011).

the first thoroughbred to the region when he imported Black Swan from Australia around 1850—the chief amusements of the Spanish Dons involved bulls and blood. Before statehood every manner of blood sport proliferated in California: bullfights, bear-versus-bull fighting, dog fighting, and bear baiting. When the California state legislature banned all types of bull fighting in 1854, it proved to be not only a victory for Anglo-American sensibilities, but also a boon for thoroughbred breeding in the state. That same year, the Williamson brothers established the first thoroughbred breeding farm. In 1862, Theodore Winters brought the nation’s most expensive thoroughbred to stand at his nursery in Yolo County. Winters’s purchase of Norfolk from Robert A. Alexander for \$15,001 made good on Alexander’s boast that he would sell one of Lexington’s colts for more than the \$15,000 he had paid for the “Blind Hero of Woodburn.” Henceforward California residents participated in the legally and culturally sanctioned sport of thoroughbred racing. For racing to flourish in the region, California needed two things: horses and tracks. The early interest in thoroughbreds created a flurry of track construction, and large purses raised by dues-paying members of local jockey clubs attracted horses and horsemen from other parts of the United States.<sup>11</sup>

By building racetracks and offering large purses, the California thoroughbred industry willed itself into existence. The earliest tracks and farms concentrated around San Francisco and Sacramento. By the 1860s, San Francisco had at least five racetracks. Despite the concentration of tracks, promoters struggled to fill their races. Most races had only three or four horses, and, even with such short fields, most tracks could only muster two or three races a day. To attract more horses to the region, promoters increased the purses at their tracks. San Francisco’s Ocean Course offered the “richest race in the world” in 1873. The

---

<sup>11</sup> Kent Cochran “In the Beginning.....,” *Thoroughbred of California*, July 1957, 46-48.

purse, which consisted of \$20,000 in gold, was considerably larger than any other race in the country and drew a large field including several champions brought by rail from the east. One horse brought to race at the Ocean Course had won the previous year's Belmont Stakes and Travers Stakes for a combined purse of \$10,000. California insinuated itself into thoroughbred racing by offering unheard of sums for bloodstock and for racing.<sup>12</sup>

The potential in California to attain vast amounts of wealth coupled with the availability of large swaths of land proved to be an important pairing for the California thoroughbred industry. Gamblers and robber barons, men who had made their fortunes in mining, land speculation, and railroads, accumulated large tracts of land which, for aesthetic and cultural reasons, they populated with blooded horses. James Ben Ali Haggin, a lawyer from Kentucky who made his fortune in mining, established the Rancho del Paso on nearly 45,000 acres near Sacramento. Leland Stanford, who made his millions in railroads before becoming Governor of California and a US Senator, bought Palo Alto Stock Farm in 1876 and added to it until it became the 11,000 acre estate that now houses Stanford University. Although Stanford was known more for his trotting horses, he retained thoroughbreds, because he believed that breeding thoroughbreds with his trotters would increase their speed.<sup>13</sup>

The flowering of California's thoroughbred industry followed a spatial pattern similar to the state's overall development. Tracks and breeding farms emerged first in the orbit of San Francisco and slowly appeared later in the Southland. If Theodore Winters's farm in Yolo County was the state's first great breeding operation, the second was Elias Jackson

---

<sup>12</sup> Ibid., 52.

<sup>13</sup> Ibid., 53.

(“Lucky”) Baldwin’s near Pasadena. Despite its location in Southern California, Baldwin’s Rancho Santa Anita received its capital from San Francisco. Baldwin became an accidental millionaire during a tiger-hunting trip to India. Before leaving on his adventure, he told his broker to sell his gold-mining shares if they reached a certain price. Baldwin kept the shares secure in his office vault, and, as legend has it, he forgot to leave his broker with the combination. When he returned from India the value had skyrocketed and his shares were worth millions. Baldwin invested his millions in Southern California real estate, and, in 1876, he sent an agent to Kentucky to buy bloodstock to establish his racing empire. Horse racing in Southern California contended with the land-grabbing ambitions of Los Angeles. The area’s first major racetrack, Ascot Park in San Pedro, operated for only three years before the city acquired the land to develop its seaport.<sup>14</sup>

Although Southern California racing interests managed to move their operations eastward into Pasadena, breeding and racing thoroughbreds in California relied on legalized gambling to buoy the industry. The Southland’s new track in Pasadena, located on land donated by Lucky Baldwin and known as “Santa Anita the Old,” furnished only “two long colorful winter meetings” before the California legislature banned betting state wide in 1909. Betting—and therefore racing—lasted outside the law two seasons longer at a track in Emeryville under the influence of Bay Area political boss Colonel Dan Burns. The last race at Emeryville would be the last thoroughbred race in California until the bet-free meetings held at Tanforan in the winter of 1923-24. Racehorse owners liquidated their holdings selling their entire strings to eastern farms. Some owners, like James Ben Ali Haggin relocated.

---

<sup>14</sup> Ibid., 52, 56.

Haggin brought much of his stock to Elmendorf Stud in his native state of Kentucky. Other breeders simply carried on, selling their horses for fractions of their pre-ban value.<sup>15</sup>

Southern California breeders who stayed in the business after the 1909 anti-gambling act found an outlet for their stock south of the border. Beginning in 1916, Hall of Fame boxing promoter James W. (“Sunny Jim”) Coffroth managed a Tijuana racetrack under the auspices of the Lower California Jockey Club. “Honest” John McKee—it seems that racing’s semi-legality led to an increase in nicknames—a “dyed-in-the-wool Kentuckian” from Mount Sterling introduced many wealthy Californians to horse racing during this period. In 1922, McKee shipped his own small string south to Tijuana, but he lost them all in a matter of months to claims, training accidents, and illness. McKee refashioned himself as a trainer convincing wealthy patrons they would get a “bigger kick in rooting [their] own horses home than in merely cheering a winner [they] happened to bet on.” For oil tycoon John McKeon, McKee arranged the purchase of Bon Homme whose disappointing racing career in Mexico did nothing to deter McKeon from establishing his own stud farm. McKee also introduced Chaffee Earl, the baby-faced boy millionaire and son of the late Los Angeles newspaper publisher, to the *carreras mexicanas*.<sup>16</sup>

Horse racing needed gambling to survive, but gambling carried negative associations for Americans during the Great Depression. Despite being home to one of the richest races in the Americas, Coffroth’s Old Tijuana track did not attract the class of horse or person that California breeders had come to expect or that would help keep them afloat. In 1929, *Los Angeles Times* writer John Steven McGroarty, described Coffroth’s racing plant as “now

---

<sup>15</sup> *Ibid.*, 56, 53.

<sup>16</sup> Agua Caliente Scrapbooks Folder 1 MSS 14243 University of Virginia Small Special Collections Library.

shabby with worn-off paint, its cheap gilding faded, a place for Mexican peons and poor white trash.”<sup>17</sup> But Prohibition proved to be good for business in Tijuana, even as the luster faded from Cofforth’s track. The American Building and Investment Corporation developed a resort and casino in Tijuana where Californians could drink and gamble. Vice-fueled holidays south of the border proved so popular that the Agua Caliente resort embarked on a major expansion. In addition to thirty-three new bungalows, a \$300,000 bathhouse, and a \$250,000 addition to the main hotel building, the American Building and Investment Corporation also proposed a \$100,000 golf course.<sup>18</sup> Management even brought more than \$100,000 worth of Kentucky thoroughbreds to the resort so vacationing movie stars could exult in a daily canter at the hot springs.<sup>19</sup>

The five-gaited horses brought to entertain hotel guests were not the last horses brought to Agua Caliente. The next month, developers announced they would join forces with Coffroth to break ground on a new \$2,000,000 racing plant.<sup>20</sup> The new racing site boasted several improvements over the Old Tijuana racetrack. The San Diego and Arizona railroad terminated at the site and provided ample siding, while a major thoroughfare provided quick access for cars driving down the California Highway. The developers spared no expense. They modeled the barns in the Spanish mission style, and built them out of concrete with metal rooves to make them fireproof. The grandstand followed similar designs and featured a broad terraced lawn that afforded complete stadium style views of the races

---

<sup>17</sup> John Steven McGroarty, “Agua Caliente, Across Mexican Border, Duplicates Monte Carlo,” *Los Angeles Times*, September 8, 1929.

<sup>18</sup> “Agua Caliente to Be Expanded,” *Los Angeles Times*, September 9, 1928.

<sup>19</sup> “Riding to be Popular Fad,” *Los Angeles Times*, March 7, 1929.

<sup>20</sup> “Border Track War Over,” *Los Angeles Times*, April 30, 1929.

from every spot. The Agua Caliente track featured the American system of pari-mutuel wagering, and the track introduced North America to a German-developed photo finish system and a French automatic timing device. Promoters booked entertainers and serenaders to fill the idle minutes between races.<sup>21</sup> The track's governing body, the Agua Caliente Jockey Club held the world's richest race, the Agua Caliente Handicap, worth \$100,000.<sup>22</sup> Western Air Express even inaugurated a new direct service from Los Angeles to Agua Caliente. Planes left from the Valley airport near Alhambra and landed directly in front of the Agua Caliente resort.<sup>23</sup> All of these features caused McGroarty, the journalist who was so critical of Coffroth's Old Tijuana track, to extol Agua Caliente as the "Monte Carlo of the New World" where revelers could quench their thirst with "any kind of drink known to the palate" far from the sneering looks of the Anti-Saloon League or the enforcement arms of the Eighteenth Amendment and California's anti-gaming law.<sup>24</sup>

Racing at the Tijuana Hot Springs managed to resurrect the breeding industry in California. Throughout the gambling prohibition, California breeders sent their horses south of the border, but during Agua Caliente's inaugural season California breeders sent more than 250 horses to Mexico. The large purses enticed large stables from farther east to make the trip southwest to Mexico. Oil tycoon W.T. Waggoner sent a string of horses from his Three D's Stock Farm to compete for some of the large stakes in Tijuana.<sup>25</sup> The inclusion of

---

<sup>21</sup> "Race Track War Looms," *Los Angeles Times*, April 19, 1929.

<sup>22</sup> "Agua Caliente Purse Richest," *Los Angeles Times*, July 19, 1929.

<sup>23</sup> "Direct Service to Agua Caliente" *Los Angeles Times*, August 18, 1929.

<sup>24</sup> John Steven McGroarty, "Agua Caliente, Across Mexican Border, Duplicates Monte Carlo," *Los Angeles Times*, September 8, 1929.

<sup>25</sup> "Stables Flock to New Track," *Los Angeles Times*, December 15, 1929.

such high profile racers at Agua Caliente made horse racing such a draw for Southern Californians that a special train of seventeen Pullman cars originated in Los Angeles before the inaugural meeting. The 350 passengers of the special coaches stayed in the trains on the Agua Caliente siding from 28 Dec until 1 Jan, when they returned to Pasadena in time for the Rose Bowl football game.<sup>26</sup>

Anti-gaming could only suppress the thoroughbred industry in California for so long before breeders and owners with deep pockets and political connections brought racing back to California. First came Tanforan on the San Francisco peninsula. At Tanforan, which opened in 1923 when California law prohibited gambling, the racing plant represented rural gentility. The view book commemorating Tanforan's first season observed that the owners intended to "resuscitate breeding of the thoroughbred horse" in California thereby bolstering the market for high-bred horses. Anti-gaming legislation had destroyed the profitability of breeding Thoroughbreds, and a luxurious grandstand and high purses preserved a place in the economy for the rural elite.<sup>27</sup>

Tanforan competed with Tijuana for horses, and, despite Prohibition, managed to get some better horses. Taylor Hay, the manager of the Ulysses S. Grant Hotel in San Diego whose family owned the Scotland thoroughbred stock farm in Kentucky, thought that most of the horses racing at Agua Caliente in the summer of 1930 were about as good as those "paddling around the track at the Blue Grass fair."<sup>28</sup> Nevertheless, racing in Tijuana kept the

---

<sup>26</sup> "Pullman Cars in Lieu of Hotels in Agua Caliente," *Los Angeles Times*, December 16, 1929.

<sup>27</sup> Pacific Coast Jockey Club, *Inaugural Meeting, Tanforan Racecourse, San Bruno, California* (San Francisco: Pacific Coast Jockey Club, 1924), np.

<sup>28</sup> Taylor Hay to CW Hay 2 Aug 1930 Taylor-Hay Family Papers, 1783-1991, Filson Historical Society, Mss. AT238d Folder 113 Correspondence May to August 1930.

Grant Hotel in San Diego busy,<sup>29</sup> and Hay made frequent trips down to watch races and buy beer at a wholesale warehouse.<sup>30</sup> Clearly Hay wrote about a poor day at the races, because stakes races like the Agua Caliente Handicap attracted the class of the breed. But by 1931, the bad days outnumbered the good. And just as John Steven McGroarty could cluck his tongue at the “Mexican peons and poor white trash” patronizing the Old Tijuana track, later editorialists noted that filling racing cards with cheap horses cluttered “up a track with such an overwhelming lot of ‘bums.’”<sup>31</sup>

And bums don’t pay the bills. By Agua Caliente’s third season, the private contractor who paid for the right to take bets at the tracks had to renege on his lease. He couldn’t afford the \$2,500 per day that the racing association charged him.<sup>32</sup> Later that season, the track closed the season abruptly. The racing association gave several reasons: they lost \$100,000 on the season, the Mexican government increased taxes, and cash-on-hand disappeared.<sup>33</sup> Changes in leadership and dire articles in newspapers seemed like so much hot air to people who followed racing. It was conceivable that the track wasn’t making money, but most refused to believe they were actually losing any. Attendance numbered in the tens of

---

<sup>29</sup> Taylor Hay to CW Hay 22 Sep 1931 Folder 118 Correspondence September to December 1931 Taylor-Hay Family Papers, 1783-1991, Filson Historical Society, Mss. AT238d.

<sup>30</sup> Taylor Hay to CW Hay and Mrs. CW Hay 28 Sep 1931 Folder 118 Correspondence September to December 1931 Taylor-Hay Family Papers, 1783-1991, Filson Historical Society, Mss. AT238d.

<sup>31</sup> Agua Caliente Scrapbooks Folder 1 MSS 14243 University of Virginia Small Special Collections Library.

<sup>32</sup> Taylor Hay to CW Hay 10 Dec 1931 Folder 118 Correspondence Sep to Dec 1931 Taylor-Hay Family Papers, 1783-1991 Mss. AT238d.

<sup>33</sup> Taylor Hay to Mr. and Mrs. CW Hay 24 Dec 1931 Folder 118 Correspondence September to December 1931 Taylor-Hay Family Papers, 1783-1991 Mss. AT238d.

thousands on days when the biggest race was a sprint with a small purse, and the published figures didn't even include revenue from the casino or bars.<sup>34</sup>

In the end, it wasn't poor attendance or bad horses that sounded the death knell for racing at Agua Caliente. A "very active campaign" in California emerged in 1933 in support of racing, and by June it seemed like a "cinch."<sup>35</sup> California went on to reinstate pari-mutuel wagering in 1933. As soon as racing came back to California rumors abounded about new tracks popping up in the state. Every new resort on the drawing boards had a race track planned on the adjoining property.<sup>36</sup> When Caliente finally closed for good, it had more to do with Mexican politics than daily receipts. President Lázaro Cárdenas campaigned in 1935 on a platform to carry out the social and economic aims of the Mexican Revolution. As part of his plan, he promised to close gambling in Mexico, and had managed to close it "every place but the Foreign Club in Tijuana and Agua Caliente."<sup>37</sup> But by 1935 when Agua Caliente closed, Southern California had legalized pari-mutuel wagering at Santa Anita, and the world's richest race moved to Pasadena where Clark Gable and Hollywood's horsey set could enjoy the races, the views of the San Gabriel foothills, and the cocktails without raising the eyebrows of the Los Angeles vice squad.

Breeders and owners who supported bringing gambling on horses back to California needed to convince voters of the broad utility of their industry. Gambling on races would, they said, create "a tremendous interest" in breeding thoroughbreds and lead to the

---

<sup>34</sup> Taylor Hay to Mr. and Mrs. CW Hay 19 Feb 1933 Folder 121 Taylor-Hay Family Papers, 1783-1991 Mss. At238d.

<sup>35</sup> Taylor Hay to CW Hay 20 Jun 1933 Folder 122 Taylor-Hay Family Papers, 1783-1991 Mss. At238d.

<sup>36</sup> CH Hay to Taylor Hay 5 Aug 1935 Folder 127 Taylor-Hay Family Papers, 1783-1991 Mss. At238d.

<sup>37</sup> Taylor Hay to Mr. and Mrs. CH Hay 2 Aug 1935 Folder 127 Taylor-Hay Family Papers, 1783-1991 Mss. At238d.

establishment of large breeding farms and the creation of many jobs. The owners designed their campaign to convince the average Californian that by “bringing racing back to the state...those persons who loved horses would have the opportunity to own a few runners.” The numbers tell a different story. Between 1933 and 1938, 364 individuals registered thoroughbreds in California. The largest crop of thoroughbreds came in 1937 when 202 breeders registered 556 colts. A few large breeders, like Charles E. Cooper and J.P. Atkins, dominated the landscape registering large numbers of horses. Up to 1938, Cooper’s three stallions sired 354 foals. With all the racing brought to California after legalized betting, nearly all the breeders in the state registered only one or two colts per year.<sup>38</sup> While the idea of a republic of small holders reflected an artful characterization of the thoroughbred industry, California voters overwhelmingly voted to restore racing to the state on 27 June 1933. The referendum established the California Horse Racing Board with the broad power to regulate horse racing in the state. In its first year, the Horse Racing Board issued permits to three tracks: Tanforan in San Bruno, Bay Meadows in San Mateo, and Santa Anita in Arcadia.<sup>39</sup>

The construction of Santa Anita racetrack in 1934 coincided with an explosion of population growth in Southern California. In 1900, Los Angeles County accounted for only 11.5 per cent of California’s 1.5 million residents. By 1930 that number increased to 38.9 per cent, and in the next decade the County added half a million people totaling 40.3 per cent of

---

<sup>38</sup> Charles E. Cooper to Duke Lindeman 25 Jul 1938, Charles E. Cooper Papers (Collection 330). Box 5 Misc. Correspondence 1938; “Rancho San Luis Rey Catalog 1938” Box 1 Catalog 1938, Department of Special Collections, Charles E. Young Research Library, University of California, Los Angeles.

<sup>39</sup> “Thoroughbred Racing in California,” na, nd, np,1-2, Charles E. Cooper Papers (Collection 330). Box 1 Folder 3 Mark T. Cox Department of Special Collections, Charles E. Young Research Library, University of California, Los Angeles.

California's 6.9 million population.<sup>40</sup> The Southland started to experience crowding. Already by October, racing fans looking to rent houses near Arcadia for the Christmas Day opening of Santa Anita came up empty. The number of houses taken off the market surprised even realtors, usually the most pronounced boosters of up-and-coming neighborhoods. Los Angeles County real estate owners benefited from the racetrack's construction. Landlords who had asked for \$50 dollars per month charged \$220.00 for three months during the racing season.<sup>41</sup> Other landlords enjoyed a seller's market as "several parties" made inquiries about leases for "three or more bedroom houses for the racing season."<sup>42</sup> Hotels stepped in for racing fans who couldn't secure private rentals. The swanky Huntington Hotel, situated about six miles away, anticipated crowds during the inaugural Santa Anita meeting which coincided with some of Pasadena's biggest events like the Rose Parade, the Rose Bowl football game, and the lighting of the world-famous Christmas Tree Lane.<sup>43</sup> Farther flung hotels catered to racing fans as well. The Desert Inn in Palm Springs assured customers that they could enjoy a whole day of races at Santa Anita and make the 100-mile trip on "paved and scenic highways" arriving at the desert oasis "comfortably in time for dinner."<sup>44</sup>

---

<sup>40</sup> "Historical General Population City & County of Los Angeles, 1850 to 2010," Los Angeles Almanac, accessed January 16, 2019, [www.laalmanac.com/population/po02.htm](http://www.laalmanac.com/population/po02.htm).

<sup>41</sup> Josephine G. Nicholas to Mr. and Mrs. Charles E. Cooper 6 Oct 1934 Box 5 [no folder name] Charles E. Cooper Papers (Collection 330). Department of Special Collections, Charles E. Young Research Library, University of California, Los Angeles.

<sup>42</sup> A.J. Prints to R.E. Cooper 8 Oct 1934 Box 5 [no folder title] Charles E. Cooper Papers (Collection 330). Department of Special Collections, Charles E. Young Research Library, University of California, Los Angeles.

<sup>43</sup> S.W. Royce to Charles E. Cooper 22 Nov 1934 Box 5 [no folder title] Charles E. Cooper Papers (Collection 330). Department of Special Collections, Charles E. Young Research Library, University of California, Los Angeles.

<sup>44</sup> James C. Geggis to Charles E. Cooper 23 Nov 1934 Box 5 [no folder title] Charles E. Cooper Papers (Collection 330). Department of Special Collections, Charles E. Young Research Library, University of California, Los Angeles.

Supporters of racing who criticized the California Racing Board had to admit that they oversaw racing in a “first-class manner.” But the return of racing to California did not create an immediate boom in the breeding industry. Of 4,837 thoroughbred foals listed in the spring supplement to the *American Stud Book*, fewer than 200 were registered in California. California owners who tried to start their horses at Santa Anita ran into trouble trying to get stable space at the new track. Santa Anita’s managers from the beginning offered “attractive purses” to get the country’s “most publicized horses” to run in Southern California so they could bring in the betting crowds. Every summer, Carleton Burke, the chairman of the California Horse Racing Board, went to the Saratoga meet to talk up Santa Anita. Burke and the Santa Anita management brought so many top horses to the track that it became “established as a high-class racing plant.” The number of out-of-state horses stabling at Santa Anita made it “very difficult” for California breeders to secure spaces for their horses at the track.<sup>45</sup>

Eighty miles south of Los Angeles on Coast Boulevard (the modern-day Pacific Coast Highway) and eighteen miles inland on the Pala Mission Highway a little ways beyond the old San Luis Rey Mission, a broad valley opens up. The pass on Pala Mission Highway provided the best vantage of the “large stables and miles of checkerboard white paddock fences” that distinguished Charles E. Cooper’s 5,000-acre Rancho San Luis Rey from the other agricultural land in the valley. At the ranch, known locally, if not optimistically, as the

---

<sup>45</sup> “Thoroughbred Racing in California,” na, nd, np, 2-6, Charles E. Cooper Papers (Collection 330). Box 1 Folder 3 Mark T. Cox Department of Special Collections, Charles E. Young Research Library, University of California, Los Angeles.

“Home of the Thoroughbred,” “top-notch sires, two and three year olds and brood mares” enjoyed year-round sunshine in pastures without storms, frost, or night chill.<sup>46</sup>

Anybody who cared to take her car up the winding road to the pass, like journalist Martha Darbyshire did in 1937, would notice the differences between the Rancho San Luis Rey and a Kentucky stud farm. Cooper kept 3,000 acres of his ranch in constant cultivation. To provide year-round irrigation for his crops, he buried a ten-mile-long network of underground steel and concrete water mains. Cooper’s farm looked more like a factory than anything on the Frankfort Road. Cooper fed his horses primarily alfalfa, and although the plants sprouted in some paddocks, he preferred leaving nothing to chance. Every day at noon workers brought the horses alfalfa meal. Farmhands ground and sacked the alfalfa in the field so it could later be “mineralized” with additional nutritional supplements, then mixed with kelp, charcoal, linseed oil, and soy bean meal. Cooper equipped his stalls with swinging feed boxes that opened into the center aisle of the stable. At feeding time, one attendant passed down the aisle swinging the boxes out. A second attendant filled the boxes, and two more employees—Cooper employed more than fifty people at his ranch—joined the first pair in swinging the boxes back in place “as fast as four boys can clap them shut.” Cooper conceived this elaborate feeding ritual to “avoid injured feelings and peevish anxiety over one horse being fed ahead of another.”<sup>47</sup>

You’d have to get a little bit closer to the valley floor to notice other differences between Rancho San Luis Rey and a Kentucky stock farm. From above the “large stables,”

---

<sup>46</sup> Martha B. Darbyshire to Charles E. Cooper 16 Aug 1937 including carbon copy of “The Home of the Thoroughbred,” Charles E. Cooper Papers (Collection 330). Box 1 Folder 4 Misc Correspondence, 1937 Department of Special Collections, Charles E. Young Research Library, University of California, Los Angeles.

<sup>47</sup> Martha B. Darbyshire to Charles E. Cooper 16 Aug 1937 including carbon copy of “The Home of the Thoroughbred,” Charles E. Cooper Papers (Collection 330). Box 1 Folder 4 Misc Correspondence, 1937 Department of Special Collections, Charles E. Young Research Library, University of California, Los Angeles.

pastures, two ranch houses, and numerous outbuildings fit the mold of an active horse farm. The stables lacked the “polish and varnished elegance” one sees at a Kentucky farm. Indeed, witnesses alleged that the barns even lacked the “nostalgic odor” one expected to find on a horse farm. At Cooper’s ranch, the “immaculate whiteness of a hospital ward” replaced the charm and must of an eastern farm.<sup>48</sup> Some differences, such as soil quality and nutrient content, couldn’t be diagnosed without chemical testing. Chemical tests conducted on soil samples gathered from a field near the No. 2 Stud Barn indicated that the “proportions of all the essential plant foods, however as well as the percentage of organic matter, are very low, especially nitrates, potash, sulphates, and calcium.”<sup>49</sup>

Such was the state of raising horses in California: calculated, chemical, and sterile. If the slave-made Kentucky Bluegrass of the 1800s reflected feudalism, the landscape of San Diego County in 1930s reflected and predicted the success of capitalism. Through vast accumulation and investment, chemical manipulation, and techno-scientific control, California’s owners galloped headlong into the society of elite thoroughbred racing. When Martha B. Darbyshire profiled Rancho San Luis Rey she noted the many differences between a Kentucky stud farm and Charles E. Cooper’s sprawling California operation. Watching a groom lead the stallions out, one by one, into the stable yards, she noticed how the sunlight brought out a reddish tinge in Bon Homme’s brown coat.<sup>50</sup>

---

<sup>48</sup> Martha B. Darbyshire to Charles E. Cooper 16 Aug 1937 including carbon copy of “The Home of the Thoroughbred,” Charles E. Cooper Papers (Collection 330). Box 1 Folder 4 Misc Correspondence, 1937 Department of Special Collections, Charles E. Young Research Library, University of California, Los Angeles.

<sup>49</sup> Ira Dye to Charles Cooper 23 Mar 1940 Charles E. Cooper Papers (Collection 330). Box 7 (nofolders) Department of Special Collections, Charles E. Young Research Library, University of California, Los Angeles.

<sup>50</sup> Martha B. Darbyshire to Charles E. Cooper 16 Aug 1937 including carbon copy of “The Home of the Thoroughbred,” Charles E. Cooper Papers (Collection 330). Box 1 Folder 4 Misc Correspondence, 1937 Department of Special Collections, Charles E. Young Research Library, University of California, Los Angeles.

Convinced of his skill as a trainer, Edmond Blanc (1856-1920) made the outrageous wager that he could raise a champion racehorse in the walled garden of his Paris townhouse.

Conventional wisdom held that only the healthful soils of Normandy, France's equivalent of Lexington, raised winners, but a bet's a bet, and a few weeks after Blanc's boast, a mare heavy with foal began champing on grass in the corner of Blanc's garden on the Boulevard Haussmann. The foal born in the garden stayed within its walls until Blanc sent the colt into training. Not long afterward, according to racing historian Alexander Mackay-Smith, Blanc's colt won his first stakes race securing his owner's wager. Blanc was an excellent trainer, but that's irrelevant. What this piece of horse racing lore shows is that the land, which breeders and trainers had once considered of utmost importance in raising a winning steed, no longer seemed determinative. In fact, Mackay-Smith repeated the story to illustrate the (nearly) inviolable rule that the better the land, the better the horses. Even in an age of supplemental feed, vitamins, and other chemical potions, farmers tried as much as they could to supply their horses with essential minerals and vitamins by improving the land.<sup>51</sup> In California, this meant intervening in the form of fertilizer and irrigation, but California breeders might have read the wrong message from Monsieur Blanc's wager.

Raising and racing thoroughbreds was an invented tradition. The animals had no real value beyond signaling one's ability to maintain a large and useless animal. Like the carriages of British monarchs, thoroughbreds were anachronisms in the age of automobiles. This rejection of modernity accounted for some of the popularity of racing. Horse farms became a refuge for wealthy professionals and feeling constrained by their increasingly urban

---

<sup>51</sup> "Horses and the Land," Alexander Mackay-Smith Papers Box 10 Folder 13 National Sporting Library.

lifestyles. When twenty-six-year-old San Francisco *Chronicle* writer, M.B. Campbell, was upset by his prospects in journalism and felt his manly vigor evaporating into the fog of San Francisco civilization he wrote that he would prefer “flirting with a rattlesnake” to the “drab existence,” “round shoulders,” and “pale skin” that constitute city life. Standing next to the rail at Tanforan on race days Campbell felt the hoofbeats resonating in his heart calling him to a career at the Rancho.<sup>52</sup>

Like the protagonist of television’s *Green Acres* who potted corn in his New York City penthouse before following his heart and moving to the country, many mid-twentieth-century socialites decided that farm living was the life for them. By the 1940s, the demographic trend of abandoning the farm to seek fortunes in the city endured, but bourgeois elites secured country estates to enact gentry traditions. Lured by the promise of fresh air and rural vigor, city folk gobbled up country properties. Members of the nation’s City Farmers Club controlled hundreds of millions of dollars of rural real estate.<sup>53</sup> And many of these city slickers went in for racing. Farms like Rancho San Luis Rey fueled rural economies. Charles E. Cooper staffed his rancho with up to 46 employees.<sup>54</sup> Although trainers, jockeys, and vets worked on the rancho, the majority of workers were low-wage seasonal employees.

The stud farm of the 1930s approximated the intermediate garden landscape identified by Leo Marx as the outcome of the dialectical relationship between nature and

---

<sup>52</sup> M.B. Campbell to Charles E. Cooper 1 Sep 1937 Charles E. Cooper Papers (Collection 330). Box 1 folder “A-G.” Department of Special Collections, Charles E. Young Research Library University of California, Los Angeles.

<sup>53</sup> “Mount Hope Farm Starts A Revolution in Livestock Breeding” Alexander Mackay-Smith Papers Box 10 Folder12 National Sporting Library.

<sup>54</sup> California Unemployment Reserves Commission, nd. Charles E. Cooper Papers Box 1 Miscellaneous Correspondence nd California Unemployment Reserves Commission Charles E. Cooper Papers (Collection 330) Department of Special Collections, Charles E. Young Research Library, University of California, Los Angeles.

technology. Breeders relied on the natural features of the landscape and climate. They recommended finding a “large valley nestling in the hills, far enough removed from the coast to be out of the fog and the chilling sea breezes.”<sup>55</sup> Yet, despite the care given to site selection, breeding farms underwent “very pretentious improvement program[s].” Owners built storm drains with concrete conduits to keep their pastures dry and comfortable.<sup>56</sup> Complex water systems kept California farms lush and green despite the dry climate. Charles E. Cooper improved on the weather, which supplied his Rancho San Luis Rey with about fourteen inches of rain annually, with seven “electrically equipped pumping plants.” Cooper’s pumping machinery supplied water to the ten miles of “underground steel and concrete water mains” snaking beneath his property.<sup>57</sup>

The thoroughbred landscape was a political landscape. Improvements to stud farms reflected the political goals of the owners, and in California there was nothing more political than water—this being, after all, the state that inspired *Chinatown*. Californians lusted after water, capturing it, storing it, and using it as leverage to dominate outlying regions. To paraphrase Gray Brechin, California’s aqueducts brought Sussex to the Sahara. California’s thirst turned it into a modern hydraulic society, distinguished from the archaic and “Oriental”

---

<sup>55</sup> Charles E. Cooper to Kent Cochran 15 Sep 1938 Box 3 Pacific Daily Racing Form Charles E. Cooper Papers (Collection 330). Department of Special Collections, Charles E. Young Research Library, University of California, Los Angeles.

<sup>56</sup> Charles E. Cooper to Kent Cochran 2 Feb 1938 Box 3 Pacific Daily Racing Form Charles E. Cooper Papers (Collection 330). Department of Special Collections, Charles E. Young Research Library, University of California, Los Angeles.

<sup>57</sup> Charles E. Cooper and Ross Cooper to All Owners nd Box3 Altadena Stables Statements Charles E. Cooper Papers (Collection 330). Department of Special Collections, Charles E. Young Research Library, University of California, Los Angeles. Cooper’s pumps provided 1,000 miner’s inches to the underground network. A miner’s inch is a unit of flow measured terms of volume per unit time. The definition of a miner’s inch varies by location (usually referring to the area of the hole water is pumped through), so I’ve excluded these measurements from the text in favor of the unit acre feet when available.

societies described by Wittfogel by its organization.<sup>58</sup> California in the 1930s was, in hydraulic terms, defined by “roughly two equal centers of power: a private sector of agriculturalists and a public sector made up of bureaucratic planners and elected representatives.”<sup>59</sup> Irrigation districts emerged from the consummation of these private-public interactions, and they measured their success in irrigated acres and harvests of crops like citrus fruits and avocados.<sup>60</sup> The scarcity of water in California imbued the irrigation districts with a covetousness toward water. The most successful irrigation districts appropriated the most water and encouraged residents to grab as much as they could. In the zero-sum game of water rights, leaving a drop of water in the ground or in the river meant giving it over to somebody else, and that risked turning one’s “wonderful land...permanently dry.”<sup>61</sup> To turn his landholdings into a thoroughbred landscape in San Diego County, Charles E. Cooper used pumps and wells as well as drawing 2,000 acre feet per year from the San Luis Rey River.<sup>62</sup>

Like most of the large landowners in Southern California in the 1930s, Cooper was both attracted by boosters and a booster himself. In 1932, after an exhaustive search that

---

<sup>58</sup> Gray Brechin, *Imperial San Francisco: Urban Power, Earthly Ruin* (Berkeley: University of California Press, 2006). For more detailed analysis of California water policies see Marc Reisner, *Cadillac Desert: The American West and Its Disappearing Water* (New York: Penguin Books, 1993), especially chapter one, “A Country of Illusion.” For a longer view of California’s water history, see Norris Hundley, Jr., *The Great Thirst: Californians and Water, a History* (Berkeley: University of California Press, 2001).

<sup>59</sup> Worster, *Rivers of Empire*, 51.

<sup>60</sup> Fallbrook Chamber of Commerce, “Fallbrook: An American Community of Home Owners” nd Box 3 Fallbrook Irrigation District, Fallbrook, CA Charles E. Cooper Papers (Collection 330). Department of Special Collections, Charles E. Young Research Library, University of California, Los Angeles.

<sup>61</sup> Raymond Wayman, Wm. L. Truitt, and Gilbert R. VanDyke “This is Your Last Chance to Help Get Water” np nd, Box 3 Fallbrook Irrigation District, Fallbrook, CA Charles E. Cooper Papers (Collection 330). Department of Special Collections, Charles E. Young Research Library, University of California, Los Angeles.

<sup>62</sup> “Protest Blank” nd, Box 3 Fallbrook Irrigation District, Fallbrook, CA Charles E. Cooper Papers (Collection 330). Department of Special Collections, Charles E. Young Research Library, University of California, Los Angeles.

included “a trip around the World” surveying thoroughbred farms in “Australia and other places,” Cooper decided that “Southern California was the ideal spot to raise the thoroughbred.” He bought the 4660 acres that became Rancho San Luis Rey for \$100 per acre, and he convinced those interested in raising thoroughbreds that it was a bargain. He told prospective buyers that his “stock all do well” and his horses rarely get sick. Since he moved his operation to San Diego County, other breeders established farms nearby. Cooper told prospective buyers that he “always had the thought” to dispose some of his land at cost to anyone hoping to get into the thoroughbred business. And he was sure to tell them that alfalfa grown in the San Luis Rey Valley was “the very best for horses.”<sup>63</sup> While Cooper might have been an earnest and devoted horse fancier—he did, after all, spend a fortune promoting the breed—by far his largest investment was in land.

The booster’s optimism that Cooper presented to potential buyers belied the dire circumstances at Rancho San Luis Rey. Just as any other industry, the Great Depression took its toll on thoroughbred owners. With their assets tied up in large amounts of land and expenses mounting owners occasionally felt underwater. Cooper, who owned the top two California thoroughbred sires, resorted to cold-calling prospective buyers in 1937. Cooper had made his money in the oil industry, but even having the “right of discovery of the Breckenridge Pool” could not fix his financial trouble, and Cooper sought gentlemen interested in “purchasing a completely equipped Thoroughbred Breeding Farm in Southern California.”<sup>64</sup> The economics of raising thoroughbreds is not dissimilar to that of other

---

<sup>63</sup> Charles E. Cooper to George H. Stevenson 23 Mar 1937 Box 1 Folder 6 “P-Z” Charles E. Cooper Papers (Collection 330). Department of Special Collections, Charles E. Young Research Library, University of California, Los Angeles.

<sup>64</sup> Charles E. Cooper to Wm. F. Morgan and Bud Fogelson 11 May 1937 Box 1 Folder 9 H-O Charles E. Cooper Papers (Collection 330). Department of Special Collections, Charles E. Young Research Library, University of California, Los Angeles.

livestock. From ancient times, domesticated animals enabled people to store their wealth. Livestock represented a stable way to store and transfer wealth; however, thoroughbred horses are an elastic good. Breeders could only turn profits when people wanted to buy and own thoroughbreds, and during the Depression hardly anybody wanted thoroughbreds. Otherwise they were saddled with capital investments in huge quantities of land and useless animals. Despite the worsening economy of the 1930s, brokers recommended maintaining stock and real estate holdings. Advisers considered thoroughbred bloodstock good investments, second only to “good grazing land for horses.”<sup>65</sup>

Legalized horse racing in California increased interest in the sport throughout the state, but during the early years of racing, breeding and keeping horses wasn't too profitable. People who jumped into the breeding business learned that it took three years before their colts were ready to race and that “expenses go on just the same” when the race track is closed.<sup>66</sup> Most owners preferred taking a hands-off approach to raising their horses. They'd hire trainers and ranchers like Charles Cooper to raise their horses for them. Cooper responded to concerned letters from owners defining terms relating to rearing their horses. For example, Angeleno Don Marlin didn't know what “turning out” meant.<sup>67</sup> Ranch owners like Cooper capitalized on such ignorance, providing facilities for the “care, breeding raising

---

<sup>65</sup> Cromwell Bloodstock Agency to Charles Cooper 28 May 1938 Box 7 no folder Charles E. Cooper Papers (Collection 330). Department of Special Collections, Charles E. Young Research Library, University of California, Los Angeles.

<sup>66</sup> “Thoroughbred Racing in California,” na, nd, np, 8, Charles E. Cooper Papers (Collection 330). Box 1 Folder 3 Mark T. Cox Department of Special Collections, Charles E. Young Research Library, University of California, Los Angeles.

<sup>67</sup> Charles E. Cooper to Don Marlin 29 Sep 1937 Charles E. Cooper Papers (Collection 330). Box 1 Folder 4 Misc. Correspondence, 1937 Department of Special Collections, Charles E. Young Research Library, University of California, Los Angeles.

and training of the thoroughbred.” Sometimes owners paid thousands of dollars to keep strings of dozens of horses at Rancho San Luis Rey. Cooper furnished clients with extras including a “comfortable farmhouse of six or more rooms” or a “night watchman for the brood mares during the foaling season.”<sup>68</sup> Keeping a stud farm operational was expensive, and despite boarding fees, men like Cooper operated on thin margins in the early years. Between making payments on the land, maintaining his horse track, advertising his horses and services, paying salaries, and buying feed, horses, and machinery Cooper spent hundreds of thousands of dollars annually. Selling his own horses and boarding other people’s covered only about one third of Cooper’s expenses. His largest single credit came from selling land. Although Rancho San Luis Rey was, according to Cooper’s letterhead, “the home of the Thoroughbred,” the real money in the California industry was in land.<sup>69</sup>

Since thoroughbred breeders in California recognized that their landholdings were their greatest asset, they went to great lengths to improve the productivity of the land. It was almost a truism by the 1930s that intensive agriculture depleted the richness of eastern soils. It was also well known that certain soils, such as that of Kentucky’s Bluegrass Region, produced hardier livestock. By 1940, agronomists had quantified these differences, and several different minerals entered the farmer’s lexicon. Phosphorus and lime (calcium) are among the most important elements in a husbandman’s soil. Together these two elements

---

<sup>68</sup> “Contract for Keeping Twenty-five Broodmares,” Charles E. Cooper Papers (Collection 330). Box 1 Folder 3 Mark T. Cox Department of Special Collections, Charles E. Young Research Library, University of California, Los Angeles.

<sup>69</sup> “Accounts for FY 1937-Assets etc.” Charles E. Cooper Papers (Collection 330). Box 1 Folder 2 Financial Statements 1937 Department of Special Collections, Charles E. Young Research Library, University of California, Los Angeles.

compose over ninety percent of an animal's skeleton.<sup>70</sup> Charles Cooper recognized that his soil differed from that of Kentucky, and, in 1940, he sent a sample of his soil out for testing to determine just how much it differed. Scientists at Twining Laboratories in Los Angeles found the soil at the Rancho lacking in several important minerals. They explained to Cooper that this accounted for his low yields on the agricultural portions of the ranch. The soil experts at Twining noted that the "conventional prescription" to fix Cooper's soil involved large quantities of commercial chemicals, estimating that it would take "at least a ton per acre...to balance the indicated deficiency." Such drastic chemical intervention would not have been enough, as the soil would still lack calcium and sulphur. Instead Cooper could use manure collected on his farm mixed with straw bedding and add the needed minerals during the composting process. Homegrown fertilizer proved to be a much cheaper option.<sup>71</sup> (For comparison's sake, producing the same results on a horse farm in Kentucky required only 450 pounds of chemical treatment per acre.)<sup>72</sup> California breeders looked for technoscientific interventions to make up for the geological shortcomings of their land and to make their farms competitive with their eastern counterparts.

Given the high price of thoroughbreds, owners preferred to feed their animals "natural" products, or at the very least to make sure their suppliers seemed sufficiently scientific. Representatives of the Green Circle Lime Company assured potential customers

---

<sup>70</sup> Chester F. Hockley, *Pasture for Horses* (Baltimore: The Davison Chemical Company, 1940) Box 10 (no folders) Charles E. Cooper Papers (Collection 330) Department of Special Collections, Charles E. Young Research Library, University of California, Los Angeles.

<sup>71</sup> Ira Dye to Charles Cooper 23 May 1940 Box 7 no folder Charles E. Cooper Papers (Collection 330). Department of Special Collections, Charles E. Young Research Library University of California, Los Angeles.

<sup>72</sup> Soil Test Results [noyear] Folder 520 Scotland Farm Maps and Charts Taylor-Hay Family Papers, 1783-1991 Mss. AT238s Filson Historical Society, Louisville, Kentucky.

that their lime was “not a man made product.” The shell marl lime came from a natural deposit in San Diego County and possessed “none of the danger elements that are apt to be found in other types of lime.”<sup>73</sup> Other companies put equine celebrities on the cutting edge of health-food trends. Developers of Karomeal harnessed the nutrition potential of carob, whose high nutritive content and low-sugar content attracted the health-conscious and gave it the sobriquet “hippie chocolate.”<sup>74</sup> Enza-Vita Laboratories of Toledo, Ohio took a different tack promoting their digestion-supporting supplement. Enza-Vita scientists arrived at their cocktail of enzymes and essential vitamins and minerals through “long and careful research” and “painstaking[ly] checking...results.”<sup>75</sup> The firm’s “[c]ontinuous biological assays” seemed to guarantee Enza-Vita’s efficacy.<sup>76</sup> Thoroughbred owners made sure to give their horses the best available feed. By the 1930s, this meant a combination of sunshine, pasture, and science. The chemical understanding of nutrition opened new horizons in feed supplements and farm geography. Fed the right supplements, a thoroughbred farm could be anywhere. Chemistry arrived on the stock farm in the form of nutritional supplements and commercial feeds and fertilizers.

---

<sup>73</sup> Green Circle Lime Company to Rancho San Luis Rey 22 May 1936 Box 6 Miscellaneous, 1936 Charles E. Cooper Papers (Collection 330). Department of Special Collections, Charles E. Young Research Library University of California, Los Angeles.

<sup>74</sup> J.B. Becker “Karomeal Will Improve the Condition of Your Horses” Box 10 no folders Charles E. Cooper Papers (Collection 330). Department of Special Collections, Charles E. Young Research Library University of California, Los Angeles.

<sup>75</sup> Raymond N. Gentry to Charles E. Cooper 28 Oct 1937 Box 7 no folder Charles E. Cooper Papers (Collection 330). Department of Special Collections, Charles E. Young Research Library University of California, Los Angeles.

<sup>76</sup> Enza-Vita ‘50’ Pamphlet, Box 7 no folder Charles E. Cooper Papers (Collection 330). Department of Special Collections, Charles E. Young Research Library University of California, Los Angeles.

Cooper fed his horses a diet primarily consisting of alfalfa grown on Rancho San Luis Rey's productive acreage, but he also relied on a steady supply of commercial feeds and mineral supplements. Private labs offered services that measured "moisture, fat, crude protein, digestibility of protein" as well as mineral matter: iron, copper calcium, phosphorus, and iodine.<sup>77</sup> Feed companies offered vitamins and minerals in powdered form, so livestock owners could easily mix the supplements into the feed grain or mash.<sup>78</sup> In addition to mineral-fortified alfalfa, stockbreeders in the 1930s could choose from a dizzying variety of commercial animal feeds. At Rancho San Luis Rey, Cooper fed his horses Purina Omolene, and was considered by the company to be a "quite heavy" user of the product.<sup>79</sup> Perhaps Cooper noticed the advertisement that Purina ran in the *American Racing Manual* promising that Omolene was "as rich in lime as Kentucky bluegrass." Breeders and owners routinely supplemented their horses with lime to prevent "bucked shins, bowed tendons and other breakdowns."<sup>80</sup> In addition to lime, Omolene consisted of oats, linseed meal, corn, alfalfa and molasses. Most thoroughbred breeders would have easy access to all of these ingredients near their farm, but what Purina proffered was consistency. With thousands of dollars riding on a horse's performance at a race, owners and trainers understandably worried over feed. Purina

---

<sup>77</sup> Roger W. Truesdall to Charles E. Cooper 19 Aug 1936 Box 6 Miscellaneous, 1936 Charles E. Cooper Papers (Collection 330). Department of Special Collections, Charles E. Young Research Library University of California, Los Angeles.

<sup>78</sup> A.G. Youngquest to Charles E. Cooper 8 Mar 1939 Box 7 no folder Charles E. Cooper Papers (Collection 330). Department of Special Collections Charles E. Young Research Library University of California, Los Angeles.

<sup>79</sup> C.C. Porter to Charles E. Cooper 1 May 1934 Box 5 [no folder title] Charles E. Cooper Papers (Collection 330). Department of Special Collections Charles E. Young Research Library, University of California, Los Angeles.

<sup>80</sup> [Purina Ad, No Title] in [no author], *The American Racing Manual, 1936* (Chicago: Daily Racing Form, 1936) Box 5 [no folder title] Charles E. Cooper Papers (Collection 330). Department of Special Collections Charles E. Young Research Library, University of California, Los Angeles.

feed would be the same at any track from Canada to Mexico. The only place an American owner couldn't get Omolene was in pre-Revolutionary Cuba.<sup>81</sup> By the 1930s, as the advertising copy for A.A. Young Laboratories' proprietary mineral blend proclaimed, horses needed "more than the sunshine and the pasture" to thrive.<sup>82</sup>

With the industry's reliance on chemical intervention in feed, it should come as no surprise that "better living through chemistry" also made its way to the racetrack. To reduce soreness in horses' legs before races, trainers could dose them with morphine or other drugs. Unscrupulous trainers administered drugs to their horses either orally, mixed with feed or water, or hypodermically, injected directly into the bloodstream. Research conducted by Florida veterinarians in 1940 serves as an inventory of the period's performance-enhancing drugs. Trainers and owners doped their horses with morphine, heroin, codeine and several other opioids to allow horses to race through sore, broken down legs. Stimulants such as caffeine and cocaine gave racers a little extra giddy up. Trainers also dosed their animals with strychnine, a popular nineteenth-century performance enhancer supposed to "take the flabbiness out of a man." The California Horse Racing Board proposed measures to curb doping, such as reintroducing the receiving barn. A receiving barn was essentially a holding paddock where horses reported about an hour before the race. The idea was that they'd wait there long enough for the effects of drugs to wear off. That 222 of 225 owners and trainers

---

<sup>81</sup> Balston Purina Company, *Horses: How to Feed Them* (St.Louis: Balston Purina Company, 1934) Box 5 [no folder title] Charles E. Cooper Papers (Collection 330). Department of Special Collections, Charles E. Young Research Library, University of California, Los Angeles.

<sup>82</sup> A.A. Young Laboratories, "More than the Sunshine and the Pasture: Min-o-Lac Minerals of Milk," na, np, Chicago, nd Box 6 Miscellaneous, 1936 Charles E. Cooper Papers (Collection 330). Department of Special Collections, Charles E. Young Research Library, University of California, Los Angeles.

who responded to a survey about reintroducing the receiving barn responded negatively suggests the extent of doping in the 1940s.<sup>83</sup>

By the 1940s, raising thoroughbreds in California operated on a scale that competed with other regions. California breeders dropped their first Kentucky Derby-winning foal in 1922. Breeders conditioned their soils with new chemical fertilizers, which supplied the California soil with the nutrients it lacked and which occurred naturally in traditional thoroughbred strongholds, like Kentucky. National feed companies further standardized the meals thoroughbreds took. With companies like Purina shipping their product to stables around the nation, thoroughbreds ate the same fodder regardless of the geological substrate beneath them. The animals that the Bruce brothers helped standardize in the United States became increasingly abstracted from the land they occupied. Not only had the business of buying a horse become standardized, but so too did the business of raising them and the landscapes that sustained them.

In an urbanizing and newly wealthy state, the thoroughbred heritage played off the bourgeoisie's genteel pretensions. Whereas in Kentucky people who raised thoroughbreds used geology and climate to argue that thoroughbreds *belonged* in the region, people raising thoroughbreds in California *overcame* that state's geography. What pulled George Hearst and his expensive string of horses back to California had less to do with the resources than with its hospitality toward robber barons. In California, the wealthy could enclose huge swaths of land for raising and rearing thoroughbred horses. By controlling state politics, the thoroughbred lobby got gambling reinstated in the state, constructed courses, and bolstered

---

<sup>83</sup> "Public Hearing of the California Racing Board, Hollywood Park, Inglewood California, Saturday July 13, 1940," 26-28, 34 Charles E. Cooper Papers Box 9 (no folders) (Collection 330).

the breeding industry. The standardization of the breed protected thoroughbred investments throughout the country. They were no longer bound to particular places, and the technological developments of the twentieth century allowed breeders to bring the Bluegrass anywhere they wanted.

## Chapter Seven: *Cherchez le Cheval* Cold Spring Harbor, NY, 1934

Wherever he looked, W.E.D. Stokes saw decay. America's cities teemed with immigrants, whose wild children and "stale-beer" dives Jacob Riis had brought to light twenty years earlier in *How the Other Half Lives*.<sup>1</sup> It was 1910, and the excesses of the Gilded Age surrendered to the reform impulses of Progressivism. Admitting he was "no scientist," the New York City real estate mogul and heir to the Stokes-Dodge mercantile and mining fortune nevertheless considered himself "an ordinary nature experimenter [sic]." He cast his "doubting Thomas' eyes" on the question of heredity, resolute that "whatever takes place in animals, as surely takes place among humans."<sup>2</sup> Stokes raised and raced Standardbred horses for trotting races, but he courted the favor of thoroughbred breeders to improve his stock and help diffuse his breeding theories. All American Standardbred horses descend from a thoroughbred horse called Messenger through his great-grandson Hambletonian 10. Several breeds have contributed to Standardbred breeding, including Naragansett Pacers, Canadian Pacers, thoroughbreds, Norfolk Trotters, Hackneys, and Morgans. To be registered, a horse that descends from Hambletonian 10 must be able to trot a mile within two minutes and thirty seconds, the breed standard.

Stokes saw his entire breeding empire as an experiment in hereditary inheritance and an antidote to the "inevitable ruin that [was] sure to come to [the] nation."<sup>3</sup> Despite the money poured into eugenics research by the Rockefellers of the world, Stokes felt progress

---

<sup>1</sup> Jacob A. Riis, *How the Other Half Lives: Studies Among the Tenements of New York* (New York: Charles Scribner's Sons, 1890).

<sup>2</sup> W.E.D Stokes to George H. Shull, 22 June 1917, Charles B. Davenport Papers B D 27 Series IIB, Stokes, W.E.D., 1917, American Philosophical Society.

<sup>3</sup> *Ibid.*

was still too slow. At times, he acted as a citizen scientist, using his financial assets and family connections to tap into the robust eugenics research network and offering researchers his breeding catalogs to use as data.<sup>4</sup> He boasted to Charles Davenport, the director of Cold Spring Harbor Laboratory and founder of the just-opened Eugenics Record Office, about producing the world's "fastest and best" two-year-old trotter and credited "scientific breeding" for his success.<sup>5</sup> In the past, Stokes told John D. Rockefeller, breeders knelt at the temple of "luck" waiting for a "happy nick." Because of developments in scientific research, Stokes continued, breeders could feel confident about getting a good foal. Rockefeller had founded the University of Chicago in 1889. The success of such endeavors in raising the profile of American science led to a spate of copycats. Mary Williamson Averell Harriman, the widow of the Union Pacific and the Southern Pacific executive and thoroughbred breeder Edward Henry Harriman, purchased eighty acres of land at Cold Spring Harbor, Long Island, to house the Eugenics Record Office. From 1909 to 1940, the office researched human heredity and advocated nationally for eugenics programs. In his will, Stokes set aside "three millions of dollars for something with kindred aims in view."<sup>6</sup> Ever impatient, however, Stokes didn't wait for scientists to interpret his data. Instead, he began work on his own book.

Stokes used race horses as experimental objects. Based on his career as a horse breeder, which he practiced "for the knowledge it would give [him] of human heredity," Stokes hoped to illustrate applications of the laws of heredity that could be useful for the

---

<sup>4</sup> W.E.D. Stokes to C.B. Davenport 21 Oct 1910, Charles B. Davenport Papers B D 27 Series II B, Stokes, W.E.D., 1910, American Philosophical Society.

<sup>5</sup> Ibid..

<sup>6</sup> W.E.D. Stokes to John D. Rockefeller 24 Oct 1910, Charles B. Davenport Papers B D 27 Series IIB, American Philosophical Society.

eugenics movement. Stokes had an unsentimental view of those who lacked the appropriate pedigrees. “Years ago,” Stokes wrote, “here in Kentucky defective colts were destroyed, and, if a mare produced more than one defective colt, her registration papers were destroyed and she was sold out of the state.... That is the way it is done in the horse world. I ask can it be any other way in the human family?”<sup>7</sup> It should come as no surprise that Stokes found what he was looking for in the race horse population: evidence of degeneration and fuel for racial panic. But what does his assumption about scientific universalism say about the ways in which people imagined their horses? The assumptions of biological progress coupled with knowledge created on breeding farms proved easily adaptable to the problems of breeding humans. Stokes published his screed, *The Right to Be Well Born: Or Horse Breeding in Its Relation to Eugenics*, in 1917. As you might expect, Stokes’s work was more sound and fury than sound science.

But Stokes was hardly the only person to recognize the eugenic potential of breeding knowledge. The stories people told about their horses made thoroughbreds ideal experimental organisms. Even the most broken-down thoroughbred could trace its heritage back to one of the exalted foundation sires, and for breeders, the sport of horse racing existed to confirm the power of exalted blood. I argue for a reciprocal relationship between thoroughbred breeding, horseracing, and the emerging discipline of genetics. While horse breeders followed scientific developments to try to help them understand how to create champion horses, geneticists turned to breeders’ extensive records to better understand the laws of inheritance. Unlike fruit flies or inbred mice, experimental organisms popular among geneticists, thoroughbreds commanded people’s attention and admiration, and as a popular sport,

---

<sup>7</sup> W.E.D. Stokes, *The Right to Be Well Born: Or Horse Breeding in its Relation to Eugenics* (New York: C.J. O’Brien, 1917), 8, 11, 173.

horseracing helped diffuse concepts of genetic race that bolstered upper class claims to natural superiority.<sup>8</sup> While early twentieth-century thoroughbreds reflected and reinforced the racialized discourse of the period, the interaction between power, performance, and science pushed ideas of inheritance and racial difference further. In the first half of the twentieth century, racehorses provided an intellectual space in which rich people recreated themselves in the image of their animals.

Thoroughbred breeders believed that through careful breeding, they could produce biological progress, often referred to in horseracing by the refrain the “improvement of the breed.” Historians of science have emphasized the relationship between agricultural activity and the emergence of knowledge about heredity.<sup>9</sup> The careful breeding of horses developed over centuries, and the social, political, and cultural importance of the horse ensured a certain pride of place for horse breeding.<sup>10</sup> Given the cultural associations of horses with power, historian of science Phillip Thurtle notes, “Theories on breeding held by high profile [horse] owners were perhaps the most widely disseminated theories on heredity in late nineteenth-

---

<sup>8</sup> For a discussion of fruit flies as model organisms see Robert Kohler, *Lords of the Fly: Drosophila Genetics and the Experimental Life* (Chicago: University of Chicago Press, 1994). For a discussion of the scientific use of inbred mice see Karen Rader, *Making Mice: Standardizing Animals for Medical Research, 1900-1955* (Princeton: Princeton University Press, 2004).

<sup>9</sup> The rediscovery of Gregor Mendel’s foundational experiments on pea plants in 1900 proved to be the origins of modern genetics. For a discussion of the rise of Mendelism, see Peter J. Bowler, *The Mendelian Revolution: The Emergence of Hereditarian Concepts in Modern Science and Society* (London: Athlone Press, 1989). Before Mendel’s research in the 1850s and 1860s, the principle that like begets like had entered the realm of tacit knowledge for many agriculturalists. See Nicholas Russell, *Like Engend’ring Like*; Kohler, *Lords of the Fly*; Staffan Müller-Wille and Hans-Jörg Rheinberger, *A Cultural History of Heredity* (Chicago: University of Chicago Press, 2012); and Staffan Müller-Wille and Hans-Jörg Rheinberger, eds., *Heredity Produced: At the Crossroads of Biology, Politics, and Culture, 1500–1870* (Cambridge, MA: MIT Press, 2007).

<sup>10</sup> Ritvo, *The Animal Estate*, 3. For a discussion about the special place of horses within the discourse of inheritance, see Case, *The Right Blood*; Landry, *Noble Brutes*; Greg Bankoff and Sandra Swart, eds., *Breeds of Empire: The “Invention” of the Horse in Southeast Asia and Southern Africa, 1500–1950* (Copenhagen: NIAS Press, 2007); Huggins, *Flat Racing and British Society, 1790–1914*; Cassidy, *The Sport of Kings*; and Cassidy, *Horse People*.

century America.”<sup>11</sup> Leland Stanford’s horse farm, which primarily consisted of hybrid trotting horses, incorporated management techniques that emphasized training and industriousness. At Stanford’s farm, managers introduced young trotters to the “kindergarten track” to prepare them for either a successful racing career or, if they were not fleet enough, useful work in agriculture. Thurtle argued the scientific management of trotting horse farms provided a model for industrialists trying to incorporate a diverse population into a productive working class for the nation’s emerging capitalist system.<sup>12</sup> Breeding thoroughbreds also provided intellectual ammunition for proponents of twentieth-century human racial categories. Masquerading as pure science, the breeding techniques developed on American stud farms reflected existing attitudes toward race in humans, while providing data for the scientific racism of the twentieth century.<sup>13</sup>

---

<sup>11</sup> Phillip Thurtle, “‘Breeding and Training Bastards’: Distinction, Information, and Inheritance in Gilded Age Trotting Horse Breeding,” in Robert Mitchell and Phillip Thurtle, eds., *Data Made Flesh: Embodying Information* (New York: Routledge, 2004), 65–84, 66. This paper builds considerably on Thurtle’s work on trotting horses in the United States. I am particularly indebted to his interpretation of classical genetics as a science of record keeping. For a discussion of how horse breeding fits into a social and cultural history of American science, see Phillip Thurtle, *The Emergence of Genetic Rationality: Space, Time, & Information in American Biological Science, 1870–1920* (Seattle: University of Washington Press, 2007).

<sup>12</sup> Thurtle, *Emergence of Genetic Rationality*, 50.

<sup>13</sup> The literature on race and racial science in the United States is voluminous. One of the best introductions to the creation of the black-white racial binary in the United States remains Edmund S. Morgan, *American Slavery, American Freedom*. More recently, authors have emphasized the diversity of racial categories in the United States. For a synthetic work, see Paul Spickard, *Almost All Aliens: Immigration, Race, and Colonialism in American History and Identity* (New York: Taylor & Francis, 2007). For studies in whiteness and its effects, see David R. Roediger, *The Wages of Whiteness: Race and the Making of the American Working Class* (London: Verso, 1991), and Matthew Frye Jacobson, *Whiteness of a Different Color: European Immigrants and the Alchemy of Race* (Cambridge, MA: Harvard University Press, 1998). The establishment of racial difference based on scientific knowledge dates back to the Enlightenment. For a discussion of Enlightenment racial science, see Emmanuel Chukwudi Eze, ed., *Race and the Enlightenment: A Reader* (Malden, MA: Blackwell, 1997). For racial science and race-making in the United States, see Laura Briggs, *Reproducing Empire: Race, Sex, Science, and U.S. Imperialism in Puerto Rico* (Berkeley: University of California Press, 2002); Alan M. Kraut, *Silent Travelers: Germs, Genes, and the “Immigrant Menace”* (Baltimore: Johns Hopkins University Press, 1995); and Charles E. Rosenberg, *The Cholera Years: The United States in 1832, 1849, and 1866* (Chicago: University of Chicago Press, 1987). Helpful correctives to racial science exist in Jonathan Marks, *Human Biodiversity: Genes, Race, and History* (New Brunswick, NJ: Transaction, 1995), and Stephen Jay Gould, *The Mismeasure of Man* (New York: W.W. Norton & Company, 1981).

This chapter takes up the creation of the thoroughbred horse as a model organism in the early twentieth century. A model, or experimental, organism is a non-human organism that scientists study to understand biological phenomena, or, as Lorraine Daston writes, an object that “can be observed and manipulated, that is capable of theoretical ramifications and empirical surprises.”<sup>14</sup> The stories people told about thoroughbreds, two centuries of direct tail-male descent to one of three foundation sires, made it possible for breeders to promote their animals to scientists as worthy of study. Stud books carried these narratives of purity to the present providing data for would-be scientists to pore over. But these stories (and these animals!) were historically situated, capturing the spirit of their times. In the early twentieth century, stories of genetic purity and unbroken lines of succession resonated with a class that wanted to shut America’s borders and claim genetic superiority for themselves. America’s economic elite obsessed over horse breeding and their own pedigrees in equal measure.

Industrialist horse breeders considered themselves pioneers in the field of genetics. In the 1880s, Leland Stanford dabbled in heredity experiments on his “farm,” the 8,000-acre Palo Alto estate that would become the campus of the Leland Stanford Junior University. In one experiment, Stanford gave a “thorough and systematic trial” to breeding thoroughbreds to Standardbreds. Stanford’s horse Electioneer sired 158 horses that met the breed standard, and 39 of them came out of thoroughbred mares.<sup>15</sup> (With photographer Eadward Muybridge, Stanford solved the vexing problem of whether a galloping horse lifted all four of its hooves off the ground at once.) When W.E.D. Stokes met August Belmont II at the New York

---

<sup>14</sup> Lorraine Daston, “Introduction: The Coming into Being of Scientific Objects,” in Lorraine Daston, ed., *Biographies of Scientific Objects* (Chicago: University of Chicago Press, 2000), 5.

<sup>15</sup> August Belmont to W.E.D. Stokes 11 April 1911, Charles B. Davenport Papers B D 27 Series IIB, American Philosophical Society.

Sportsmen's Dinner in February 1911, he remarked that trotting-horse breeders and thoroughbred breeders shared the same goals: "the health, and social education of our citizens."<sup>16</sup>

Given their size, cost, and relatively low rate of reproduction, thoroughbred horses seem to be an unlikely experimental organism. *Drosophila*, the common fruit fly, was much more appropriate for scientific inquiry. They were cheap, prolific breeders, and small enough to transport through the mail.<sup>17</sup> Nevertheless, thoroughbreds attracted biologists researching experimental heredity and evolution. Although T.H. Morgan established fruit flies as the primary organism for genetics research, he ranged widely in his animal studies. Morgan worked with over fifty different species, and early geneticists followed his lead, collecting records from a variety of experimental organisms. William E. Castle studied horses, rabbits, guinea pigs, mice, rats, pigeons, dogs, cats, and frogs. Frank Lutz remained within the realm of insects but ranged widely, collecting crickets, *Crioceris*, *Hyphantria*, and *Spilosoma*.<sup>18</sup> Alfred E. Sturtevant, one of Morgan's fly boys, chose the thoroughbred for himself. Around 1915, Sturtevant filled a composition book with notes on thoroughbred horses. He continued researching horses into the 1930s.<sup>19</sup> Sturtevant was not alone in researching thoroughbred genetics in the early twentieth century. In 1929, Helen M. Davis penned an article for the *Science News-Letter* proclaiming that "the alliance between the horse-breeder and the

---

<sup>16</sup> W.E.D. Stokes to August Belmont (II) 15 April 1911, Charles B. Davenport Papers B D 27 Series IIB, Stokes, W.E.D., 1911, American Philosophical Society.

<sup>17</sup> Garland E. Allen, "The Introduction of *Drosophila* into the Study of Heredity and Evolution: 1900–1910," *Isis* 66, no. 3 (1975): 322–33.

<sup>18</sup> Kohler, *Lords of the Fly*, 26–27.

<sup>19</sup> Composition book: notes on thoroughbred horses ca. 1915, Box 16 folder 16.6, Alfred H. Sturtevant Papers, Archives, California Institute of Technology; Research on horse color and breeds 1930s, Box 17 folder 17.1, Alfred H. Sturtevant Papers, Archives, California Institute of Technology.

research scientist is closer and of longer standing than the casual follower of the ponies might think.”<sup>20</sup>

To nonscientists fruit flies were nuisances, pests that seemed to generate when food stayed out too long; thoroughbreds were the stars of one of the most popular spectator sports in the United States. The scientific career of *Drosophila* rarely extended beyond academic halls; the sporting press published extensive tracts on the importance of heredity to speed, and nearly every major newspaper in the country covered race results. In this way, the bodies of thoroughbreds became sites of knowledge that extended from the stud farm to the university. Ultimately, this knowledge trickled into popular forums for eugenics, like Madison Grant’s *Passing of the Great Race*. Thoroughbred breeding projects allowed people to observe conditions of inheritance in animals and imagine the possibilities of applying these ideas to humans.

This chapter proceeds first analyzing the racialist discourse that first latched on to horses as model organisms. Then it looks at techniques popular among breeders in the 1920s and 1930s. Finally, it looks at how Harry H. Laughlin of the Eugenics Record Office formalized this tacit knowledge into the language of mathematical science. Previous chapters have shown just how messy, political, and fantastical the creation of the breed was. People like Stokes and Laughlin show how powerful the narrative of political neutrality can be.

The idea that racial differences represented real, observable, and unchanging categories had a strong and pronounced effect on racial science throughout the nineteenth and twentieth centuries. Despite the revolution in scientific thinking, racialist thinkers lamented the

---

<sup>20</sup> Helen M. Davis, “Science Follows the Ponies to Discover Future of Human Race,” *Science News-Letter* 16, no. 453 (1929): 364–65+374, on 365.

discrepancy between scientific knowledge of animals and such knowledge of humans. Frederick Hoffman, a German-born statistician, attempted to elevate racial difference to the level of actuarial science in his 1892 article, “Vital Statistics of the Negro.” Hoffman lamented the lack of reliable data addressing the physical condition of races within the United States. “It would be a comparatively easy matter to collect a body of figures and facts relating to horses or mules,” he wrote, “and to show the prevalence of the most fatal diseases among them, for there is not a Southern State without a bureau of agriculture; but on the other hand, there is but *one* ... in possession of a State Bureau of Registration of Vital Statistics.”<sup>21</sup> One of the reasons racist thinkers turned to animal studies, apparently, was the lack of reliable genealogical data available for people.

Almost as soon as scientists latched onto thoroughbreds as model organisms, a generation of racist thinkers adapted their findings to human inheritance. By manipulating thoroughbred breeding to pursue the betterment of the breed—the professed goal of horse racing—breeders and eugenicists created what George Fredrickson refers to as “intellectualized racist” theory and ideology. Writing in 1869, Francis Galton, Darwin’s rakish cousin responsible for coining the term eugenics, observed that “it is easy ... to obtain by careful selection a permanent breed of dogs or horses gifted with peculiar powers of running ... so it would be quite practicable to produce a highly-gifted race of men by judicious marriages.”<sup>22</sup> Thoroughbred breeding projects represented a bridge between the human and the nonhuman world. Horse breeders first viewed themselves through the lens of

---

<sup>21</sup> Frederick L. Hoffman, “The Vital Statistics of the Negro” (1892), in Evelyne M. Hammonds and Rebecca M. Herzig, eds., *The Nature of Difference: Sciences of Race in the US from Jefferson to Genomics* (Cambridge, MA: MIT Press, 2008), 119.

<sup>22</sup> Francis Galton, *Hereditary Genius: An Inquiry into Its Laws and Consequences* (London: Macmillan and Co., 1869), 1.

perfected breeding stock, then applied the results of their breeding experiments to the larger society.<sup>23</sup>

Galton's thinking permeated treatises with broad appeal. William Ridgeway, a Cambridge archaeologist concerned about questions of race, endeavored to create a natural history of the horse, which he considered the "most important (the ox not excepted) of all the animals domesticated by man." However, Ridgeway's goals tended more toward an anthropological and historical argument than one rooted in equine biology. The acquisition and domestication of the horse, Ridgeway noted, was "one of chief factors in the rise and supremacy of the great nations."<sup>24</sup> From Ridgeway's perspective, a nation's horses reflected its progress from savagery to civilization, and a people's ability to domesticate and selectively breed horses for desired results correlated directly with its progress as civilization.

Ridgeway cast a broad historical net to capture the origins of the thoroughbred using ancient texts, extant breeds, fossils, and remnants of material culture. He excavated the history of horse breeding and traced its development from ancient times into the twentieth century. Ridgeway inherited a racial and taxonomical hierarchy, which he applied to equine stock. He "tried to point out...lessons of supreme importance to the breeder." Careless and imprudent breeding could reverse a breed's progress. Ridgeway considered his book a service. Breeders diluted their stock with "alien blood," but they had erred out of ignorance

---

<sup>23</sup> George M. Fredrickson, *The Black Image in the White Mind: The Debate on Afro-American Character and Destiny, 1817-1914* (Middletown, CT: Wesleyan University Press, 1971), xvii; Case, *Right Blood*, 26–27. On the relationship between Harriman, horse breeding, and the Eugenics Record Office, see Garland E. Allen, "The Eugenics Record Office at Cold Spring Harbor, 1910–1940: An Essay in Institutional History," *Osiris* 2, vol. 2 (1986): 225–64.

<sup>24</sup> William Ridgeway, *The Origin and Influence of the Thoroughbred Horse* (Cambridge: Cambridge University Press, 1905), vii, 1.

of history.<sup>25</sup> Ridgeway believed that proper historical knowledge and education would enable those interested in breeding projects—both human and equine—to contribute to a species’ trajectory toward progress. Knowing the exalted history of the thoroughbred would impel breeders to be conscientious of their animals’ blood.

Ridgeway’s association of animal breeding and progress invigorated later racialist appeals. Madison Grant, one of the most ardent supporters of eugenics, implored his supporters to study animals to understand better the biological mechanisms that controlled inheritance. “An intelligent study of the human species must be preceded by an extended knowledge of other mammals.” In laying out his “racial basis of European history,” Grant relied on several works of zoology, including William Ridgeway’s. Grant’s reading in zoology convinced him of the importance of heredity. “Environment and in the case of man education have an immediate, apparent and temporary influence,” Grant wrote, “while heredity has a deep, subtle and permanent influence on the actions of men.”<sup>26</sup> For Grant, like Galton, inheritable qualities did not refer only to physical characteristics. Whereas blue eyes and above-average height indicated, for Grant, good qualities, he believed these were simply the observable qualities that masked the moral, social, and intellectual characteristics that led to stable governments and advanced civilizations.

Breeders themselves entered the debate on fit and unfit people. In 1878, August Belmont Sr., who came to the United States in 1837 as an agent of the Rothschilds, wrote a letter to his son, August Belmont Jr., in which he provided inspiration for an upcoming school debate. Expounding on immigration policy, Belmont Sr. wrote, “Immigration should

---

<sup>25</sup> Ibid., viii.

<sup>26</sup> Madison Grant, *The Passing of the Great Race: Or the Racial Basis of European History*, 4th ed. (New York: Charles Scribner’s Sons, 1922), 3, vii.

be encouraged under the restrictions necessary to keep out paupers, vagrants & any race so different in habits, religion & inferior in physical characteristics as to be dangerous to our development as a homogenous & progressive nation.” As an immigrant, Belmont Sr. believed the United States benefited from its “mixed aggregation from different countries,” but only if those emigrating were able-bodied, ethnically homogenous, and intelligent.<sup>27</sup> Known as August Schönberg when he arrived in the United States, Belmont enacted his vision of the model immigrant by Gallicizing his name and trading in his synagogue for Protestant services.

Gilded Age figures like Belmont generated disparate reactions from cultural observers. While elite New Yorkers consolidated their authority, Edith Wharton excoriated the excesses of New York society in the Gilded Age in her 1920 novel, *The Age of Innocence*. “The country was in possession of the bosses and the emigrant,” Wharton wrote, “and decent people had to fall back on sport or culture.” Rearing and racing horses—standardbred harness racers in Wharton’s novel—became a refuge of the wealthy. However, Wharton lampooned this practice by making Julius Beaufort the novel’s most devoted horseman. A banker whose “tongue was bitter, his antecedents mysterious,” Beaufort “passed for an Englishman” and compensated for “whatever was regrettable” in his past with ostentation.<sup>28</sup> Newland Archer and other members of New York’s high society dismissed Beaufort’s posturing as the boorishness of the nouveau riche. Wharton’s novel set the *Social Register* scene on fire upon its publication. Everybody read the book, whispering about the

---

<sup>27</sup> August Belmont I to August Belmont II, 24 Feb 1878, Belmont Family Collection, 1799-1930, MS#1412, Columbia University Library Special Collections, Box 2, Folder August Belmont I.

<sup>28</sup> Edith Wharton, *The Age of Innocence* (1920; reprint, New York: Barnes & Noble Classics, 2004), 103, 19, 18.

inspirations behind the characters in Wharton's obvious *roman à clef*. New Yorkers spent months "trying to identify the characters in the story." An acquaintance of August Belmont Jr. suggested—obviously before reading the novel—that Belmont read the book "because some people ... intimated a similarity between the Beauforts and the late Mr. and Mrs. August Belmont." After reading the novel, Belmont's friend offered a hasty denial.<sup>29</sup>

Horse racing helped the eugenicists popularize their ideology in several ways. First, its popularity insured wide appeal. In the first third of the twentieth century, horse racing was one of the most popular sports in the United States. Back then, editors didn't relegate turf news to the sports pages. The comings and goings of equine athletes often made front page headlines. The capital spent on breeding horses suggested to lay people the rightness of its suppositions. Why after all, would someone spend millions of dollars on a flawed system? Horse racing itself provided enough fodder to perpetuate this myth. If one looked at racing records, like W.S. Anderson of the University of Kentucky did in the *Journal of Heredity* in 1921, the narrative of progress is inescapable. Between 1872 when Alarm ran one mile in 1 minute and 42  $\frac{3}{4}$  seconds and 1923 when Cherry Pie covered the distance in 1 minute and 35  $\frac{2}{5}$  seconds, eleven horses broke the record.<sup>30</sup> For thoroughbred breeders the past was instructive, the future knowable.

In late October 1929, the *Blood-Horse*, a prominent horse racing magazine, announced a contest. "Which filly or mare in all the world," the magazine asked its readers,

---

<sup>29</sup> Robert Sedgwick to August Belmont, 24 Oct 1920, Belmont Family Collection, 1799-1930, MS#1412, Columbia University Library Special Collections, Box 12, Folder Robert Sedgwick.

<sup>30</sup> "Speed Increase in Thoroughbreds" Harry H. Laughlin Papers B-2 Box 1 folder 9 Hereditary Promise – Progeny Test Truman State University.

“would make the best mate for the American champion, Reigh Count?”<sup>31</sup> The editors encouraged readers to mail in their nominations and promised to announce a winner early in the next year. The magazine offered to provide the winning entrant with an illustrated horse racing almanac and to pay Reigh Count’s stud fees for the nominated mare. The contest caused a flurry of excitement among horse racing insiders, and over the next four months nominations from across the United States and as far afield as Ireland poured into the Lexington, Kentucky, offices of the *Blood-Horse*. No doubt oil tycoon W.T. Waggoner’s \$1 million offer to purchase Reigh Count just weeks after the 1929 stock market crash contributed to the interest.<sup>32</sup>

Each contestant nominated one horse and included a justification for his choice. A New York medical doctor’s comments encapsulated the motivation of a breeding enterprise enamored of the power of blood and convinced of its inheritability: “The most important requisite in breeding is to obtain such strains that when combined, produce the highest type of Thoroughbred.”<sup>33</sup> Everybody agreed that it was possible to produce a faster horse through deliberate breeding, but few contestants agreed on just how to do that. One contestant justified his choice with a feat of logical gymnastics that included twelve propositions.<sup>34</sup> Writers suggested inbreeding in order to return to Reigh Count “the blood of all the great

---

<sup>31</sup> “Mating Contest,” *Blood-Horse*, October 26, 1929, 3. Between the announcement of the mating contest and its conclusion, the *Blood-Horse* published twenty-nine nominations and justifications. Although the nominations cover a broad geographical range and at least one African American submitted a nomination, none of the published nominations came from a woman.

<sup>32</sup> “Reigh Count,” *Time*, December 16, 1929, 44.

<sup>33</sup> “Reigh Count Mating Contest,” *Blood-Horse*, December 21, 1929, 9.

<sup>34</sup> “Reigh Count Mating Contest,” *Blood-Horse*, January 25, 1930, 118. P. Leo Faulkner, a reader from County Kildare, Ireland, nominated Toboggan “for the reasons enumerated hereafter.” The propositions begin with Reigh Count’s sire and dam and expand to include their offspring and their forebears, emphasizing past successful pairings.

successes in his make-up.”<sup>35</sup> Others cautioned that the mate should be “enough of an outcross ... to insure for the offspring a stable nervous system.”<sup>36</sup> At the conclusion of the contest, its judge observed that “the number of high class mares nominated ... shows the intelligent interest that is being taken in the breeding of Thoroughbreds.”<sup>37</sup>

Thoroughbred breeders as well as dedicated observers of Turf affairs nominated mares for the *Blood-Horse*'s Reigh Count mating contest, revealing not only their beliefs regarding genetic inheritance, but also the debates about race and science that informed their choices. Each entry included a rationalization for the mare chosen, often couched within the esoteric language of then state-of-the-art biology. By appealing to science, entrants legitimized their claims. More often than not, however, such claims were spurious, consisting of nothing more than thinly veiled expressions of racial and sexual politics.<sup>38</sup> Ideas of racial science coursed through the blood of racehorses as much as oxygen and iron. Thoroughbred breeders followed scientific trends while simultaneously contributing to the production of scientific knowledge. Furthermore, pedigree charts available to bettors helped to popularize elite concepts of biological inheritance for racetrack attendees of all classes. The popularity of horse racing in the United States contributed to the diffusion of the concept of biological inheritance that originated as an ideological project of the ruling class. Breeding and racing thoroughbred horses contributed to the popularization of racial science by allowing would-be aristocrats to imagine breeding farms as sites of knowledge production and racecourses as

---

<sup>35</sup> “Reigh Count Mating Contest,” *Blood-Horse*, December 14, 1929, 9.

<sup>36</sup> “Reigh Count Mating Contest,” *Blood-Horse*, November 23, 1929, 10.

<sup>37</sup> “Prudery is Chosen,” *Blood-Horse*, February 22, 1930, 270.

<sup>38</sup> One such example was warnings about telegony, the belief that the germ plasm of previous mates remained in the womb and could influence the development of a foal—or human being—in utero.

places to exhibit the success of their breeding experiments. Crowds gathered at racetracks to watch races, and those who could not make it to track could read the results, often accompanied by lengthy narratives, in their local newspapers.

Studying pedigrees proved one of the most popular methods breeders employed to produce faster horses. Racing served only to prove a horse's value, and the best horses not only performed well at the track, but also possessed the most coveted bloodlines. In 1929, the *Blood-Horse* reprinted an article from the *Washington Post* in which woman at a horse show found no fewer than ten entrants, foaled over a span of three years, said to have various sires, but only one dam, "Unk." Knowing that horses gestate for eleven months, the woman balked at the obvious scam that was afoot. In commenting on the exchange, the *Blood-Horse* quipped, "It would appear that the lady has acquaintance with Thoroughbreds, in which event her surprise is pardonable, since one never comes across the expression 'dam unknown' in the American Stud Book."<sup>39</sup> By the 1930s, breeders could draw genealogical charts for thoroughbreds that extended further into the past than most Americans could draw for their own family.

Although peering into family histories supplied justification for social success, elite pedigrees did not necessarily create a distinguished thoroughbred. Breeders sought other explanations for the central mystery of thoroughbred breeding: why some particularly well-born horses do not perform well on the racetrack. Breeders explained that horses who fetched high prices at auctions but did not perform to their anticipated potential as a consequence of the law of averages. These types, the *Blood-Horse* editorialized, "are to be found wherever the human or animal equation [*sic*] enters in." The editors drew an analogy to humans.

---

<sup>39</sup> "Too Many Sons and Daughters of Unk," *Blood-Horse*, June 29, 1929, 6.

Everybody could identify a well-bred, educated man or woman who failed to live up to the expectations set for them by their breeding, the ones who were “just not there.” The same thing happened to horses.<sup>40</sup> The concept of good breeding, for horses and for humans, in the first half of the twentieth century carried the disclaimer that being well-bred was necessary but not sufficient for success.

By the third decade of the twentieth century, breeders began to adopt the language and methods of scientific genetics to inform their breeding of thoroughbreds and the weeding out of undesirables. While speed, the complex trait breeders tried to develop, remained elusive, genetics allowed breeders to isolate certain traits. Amer wrote, “The more we study Mendelian laws of heredity, the more interesting it becomes to trace the manner of inheritance.” Developments in genetics led breeders to recognize the differences between dominant, recessive, and sex-linked traits. Amer relied on genetics to understand why certain traits skipped a generation, or why some traits, like color-blindness appeared more commonly in the male population.<sup>41</sup> The most scientifically minded breeders kept abreast of developments in the field of genetics by scouring journals for scientific papers they could apply to their breeding enterprises. The *Blood-Horse* went so far as to publish abstracts of experiments performed on corn.<sup>42</sup>

Breeders turned to inbreeding to amplify the characteristics—both physical and affective—that they desired. However, the potential breeders saw in inbreeding also had its limitations. When horses with similar genes mated, they increased the potential of

---

<sup>40</sup> “On the Other Side, Too,” *Blood-Horse*, November 23, 1929, 7.

<sup>41</sup> Amer, “The Breaking of Blood Vessels,” *Blood-Horse*, March 22, 1930, 408. Following the conventions of the British sporting press, Amer and other correspondents for *The Blood-Horse* often published under *noms de plume* derived from the names of thoroughbred champions.

<sup>42</sup> “Inbreeding and Crossing,” *Blood-Horse*, September 7, 1929, 4.

perpetuating harmful characteristics. However, since all thoroughbreds traced their lineage to the three foundation sires, inbreeding was necessary to create the thoroughbred breed. Many of the most successful thoroughbred lines had their foundations in inbreeding, but as the *Blood-Horse* cautioned, breeding experiments on both plants and animals confirmed that there is a danger to inbreeding, namely, the common ancestor needed to be “sound.” Inbreeding increased the potential to pass on certain hereditary defects.<sup>43</sup> This would be especially important for a breed nominally descended from only three foundation sires.<sup>44</sup>

The editors at the *Blood-Horse* chose Prudery as the winner of the Reigh Count mating contest. However, the grand breeding experiment anticipated by the racing community never happened. Harry Payne Whitney, Prudery’s owner, informed the magazine that as much “as he would like to assist in a fruition of the mating contest,” he was of the opinion that “breeding away from the farm in this instance would be inadvisable.”<sup>45</sup> Graciously, Reigh Count’s owner extended the offer to the following season. In an example of the cruel fate that nature holds for experiments in progress, Prudery died less than a month after the *Blood-Horse* announced her as the best match for Reigh Count. On March 27, 1930,

---

<sup>43</sup> Amer, “Notes on Inbreeding,” *Blood-Horse*, November 23, 1929, 14.

<sup>44</sup> A 1981 study concluded that 33 percent of thoroughbred mares suffer from an affliction known as pneumovagina. This condition—which is genetic—causes air to enter the vaginal tract, causing infections. If left untreated, damage to the uterus would leave a mare completely infertile. A procedure developed by the veterinarian E.A. Caslick in the 1930s corrected the condition and restored fertility to thousands of mares. Peter Rosedale, *Horse Breeding* (London: David & Charles, 1981), 27-28. Peter Rosedale, a contemporary thoroughbred breeder, notes the unintended consequences of selecting mating pairs based on speed. He writes, “If we select on the basis of the racecourse test for speed and stamina, to the exclusion of factors such as fertility and good mothering qualities, we may inadvertently increase the risks of infertility, poor growth rates and unsoundness.” Rosedale, *Horse Breeding*, 13.

<sup>45</sup> “Prudery Not Available,” *Blood-Horse*, March 1, 1930, 309.

Prudery succumbed to forage poisoning, a type of botulism, an unfortunate reminder of the hubris of controlling nature<sup>46</sup>

No doubt Harry H. Laughlin was familiar with racist appeals to study the animal kingdom. In the quiet community on the north side of Long Island, Laughlin filled an office with racing forms, pedigrees, and breeding charts, which he pored over “with more absorbed interest” than any “unlucky amateur bettor.” His goal was not to beat the bookmaker, but “to predict the future of the human race.... And for guidance in this endeavor [he] and his associates have turned to horses, not human beings. For, thanks to racing and the careful breeding of race horses for decades, much more is known about the heredity of horses than of any other living thing on earth.” Beyond praising Laughlin’s goal of human racial progress, science journalists extolled the nobility of thoroughbreds. Covering Laughlin’s research for *The Science News-Letter*, Helen M. Davis wrote, thoroughbreds “are creatures of luxury with truly regal pedigrees, and a research institution becomes their college of heraldry as Science, the Monarch of Intellect, goes in for the Sport of Kings.”<sup>47</sup>

Laughlin wanted to bring to genetics the degree of certainty enjoyed by physics. At the heart of physics lies a universal system of measurement. Motion, reduced to its constituent parts like velocity, time, and weight is knowable. Physicists can render motion as an equation, and that equation works universally. Laughlin called these fundamental standards the c.g.s. system of physics, in which centimeters measure distance, grams weight, and seconds time. Laughlin created his own version of the SI standards in his racing model

---

<sup>46</sup> “Prudery’s Unexpected Death,” *Blood-Horse*, April 5, 1930, 478.

<sup>47</sup> Davis, “Science Follows the Ponies,” 364, 374.

by substituting furlongs (an archaic measure used in horseracing that is equivalent to 1/8 of a mile) for centimeters, weight-carried (including the jockey and his equipment, saddle, and any additional weights) in pounds for grams, and seconds per furlong for seconds. It wasn't just the races that piqued Laughlin. The whole path from the breeding shed to the winner's circle looked, to Laughlin's mind, a lot like a "biological experiment." Pedigree charts and foal registration provided a surefire method of "determining descent" while thousands of individual races supplied data on standardized animals running standardized races. Laughlin found data on "sex, age, weight-carried, distance-run, time, trueness of the race, track condition, and the condition of and handling of the horse." While such factors would almost necessarily affect a particular horse's speed, Laughlin believed he could account for these variables.<sup>48</sup>

In the course of his decade-long research of thoroughbred inheritance, Laughlin cloistered himself in the Salmon Library, a research library named after its benefactor, New York City real estate magnate Walter J. Salmon, considered one of the leading breeders and owners of the twentieth century. Laughlin and his research team assembled "the principal racing and breeding records of all countries, and the most important books and papers by investigators and breeders of the Thoroughbred horse, published during the last 200 years, principally in England, America, France, and Germany." The accumulated data reflected the breeding records and racing results of approximately ten thousand thoroughbreds. Laughlin's fascination with thoroughbreds derived from his opinion that "it is not sufficient to depend upon adjectives such as 'very poor,' 'poor,' 'medium,' 'fine' and 'superior.' Definite mathematical yard-sticks in studies of this sort must supplant adjectives." Laughlin created

---

<sup>48</sup> "Collection of Data," Harry H. Laughlin Papers, B-2 Box 1, folder 6, Truman State University.

several indices for determining what he considered the mathematical rules governing inheritance: the racing capacity, which is the horse’s mathematical “quality of performance,” corrected against several factors including sex, distance, and weight carried; the futurity index; and the breeding factor.<sup>49</sup>

Laughlin built a formula to account for these differences. From the thousands of race results he amassed, Laughlin recorded 10 data points per race and used them to calculate 15 values of “expectation and analysis.” Laughlin’s number crunching yielded three formulas, which he called the Black Book Formulas:

Geldings

$$\text{Anti-log} \left[ \left( \frac{(a-4.5)^2}{744.6} \right) \log d + \left( \frac{(w-112)^2}{771007} + \frac{(a-4.5)^2}{-1759} + 1.00831 \right) \right]$$

Colts

$$\text{Anti-log} \left[ \left( \frac{(a-4.25)^2}{200.3} + .07033 \right) \log d + \left( \frac{(w-113)^2}{77107} + \frac{(a-4.25)^2}{-315.6} + 1.01799 \right) \right]$$

Fillies

$$\text{Anti-log} \left[ \left( \frac{(a-4.00)^2}{7641.7} + .09267 \right) \log d + \left( \frac{(w-108)^2}{77107} + \left( \frac{(a-4.00)^2}{1586} + 1.0094 \right) \right) \right]^{50}$$

The Black Book Formulas held little promise to the practical horse breeder. To understand Laughlin’s formulas, one needed fluency in the relatively new discipline of statistics.

Laughlin used four variables: sex, weight carried, distance run, and time. Holding one variable to an arbitrary value, say 4.25 years for age, Laughlin created three-dimensional

---

<sup>49</sup> Harry H. Laughlin, “Racing Capacity in the Thoroughbred Horse, Part I,” *Scientific Monthly* 38, no. 3 (1934): 210–22, on 210, 212, 219. Laughlin’s study of horseracing results reflects the move toward a mathematical model for inheritance. He attempts to calculate the quality of performance as a ratio, given certain conditions, of a horse’s time over a given distance measured against the mean. Thus, “in a truly run race on a good or fast track, [if] his mean seconds per furlong is less than the standard, the quality of performance is more than 1.000. If he requires more time than called for by the standard, then his quality of performance is less than 1.000.”

<sup>50</sup> Black Book Formulas, Harry H. Laughlin Papers B-2 Box 1 folder 1 Truman State University.

models. Using these models, Laughlin developed the “standard (or mathematically smoothed best speed of the breed).”<sup>51</sup> Not only did the standard allow Laughlin to compare two horses across centuries, but also it allowed him to create an imaginary “par” horse. This horse starts every race, and runs perfectly every time. Laughlin’s results could be somewhat surprising, since his standard horse was something of a giant killer. Man o’War lost only one race to flesh and blood horses, but Laughlin’s mathematical model felled the champion 12 times out of 21.<sup>52</sup> This all reminds me of Walter Lippmann’s 1922 attack on Lewis Terman’s IQ test in the *New Republic*: “The average adult intelligence cannot be less than the average adult intelligence.”<sup>53</sup>

While Laughlin intended the Black Book formulas for scientists conversant in statistics, Laughlin worked on a second volume, the Brown Book, to determine which horses to breed to one another.<sup>54</sup> Again, he based his research on a formula. Laughlin adapted a “general formula for heredity” creating the following formula for inheritance:

$K = f(M, R)$  in which  
M is the measured Racing Capacity of the Sire  
R is the Racing Capacity value of the Foal, and

---

<sup>51</sup> Harry H. Laughlin, “Racing Capacity in the Thoroughbred Horse, Part I” *Scientific Monthly* 38 no. 3 (Mar 1934), 213.

<sup>52</sup> “A Radio Talk presented Tuesday, Dec. 17, 1935, under the auspices of Science Service, over the Columbia Broadcasting System” Laughlin Papers B-2 Box 1 folder 9 Hereditary Promise – Progeny Test Truman State University. For a discussion of the appeal of quantification and its claims toward objectivity, see Theodore M. Porter, *Trust in Numbers: The Pursuit of Objectivity in Science and Public Life* (Princeton: Princeton University Press, 1996).

<sup>53</sup> Walter Lippmann, “The Average Age of Americans,” *New Republic*, October 25, 1922, 213.

<sup>54</sup> Coefficient of Prediction Accuracy, Harry H. Laughlin Papers B-2 Box 1 folder 5 Coefficient of Prediction Accuracy (1937) Truman State University.

K is the Probability that, all basic factors other than the given racing capacity of the sire being randomly represented, the foal will fall within the Racing-Capacity-Range  $\pm 2.5$ .<sup>55</sup>

By locating the point on a three-dimensional model shared by M and R, one could ascertain the value of K. Laughlin dubbed this three-dimensional system the “Manerkon.” As he explained, “‘M’ is for Manton, meaning prophecy; ‘R’ for Ergon, meaning the actual thing; and ‘K’ for Eikon, meaning likelihood.” An interested breeder might consult any of Laughlin’s actuarial tables to figure out how likely any particular pairing of racehorses would be to produce the next Man o’War or the next glue-factory-bound loser.<sup>56</sup> With perhaps a little grandiosity or wishful thinking, Laughlin referred to the Manerkon as the “General Formula of Heredity.”

---

<sup>55</sup> “Basic Data” Harry H. Laughlin Papers B-2 Box 3 folder 12 Manerkon – Development of Truman State University.

<sup>56</sup> Ibid.

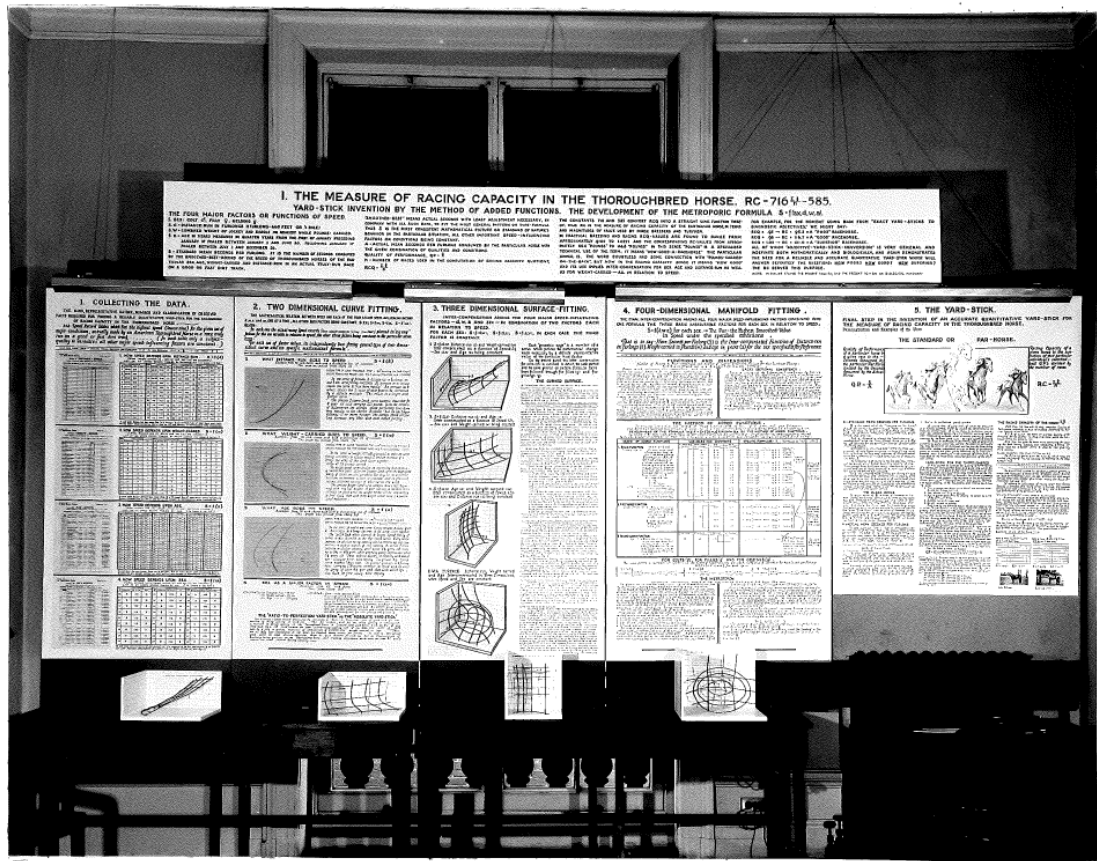


Fig. 10

Figure 14: Harry H. Laughlin's Three-Dimensional Models of Thoroughbred Inheritance, Harry H. Laughlin Papers, B-2-2:19, Yardstick, Truman State University

Laughlin's research produced more than mathematical abstractions, though. Walter J. Salmon, Laughlin's benefactor, figured genetics research might give him an edge in the breeding shed. So, in addition to funding Laughlin's research and endowing the library at the Eugenics Record Office—by 1938 the bursar of the Carnegie Institute valued his total gifts to the ERO at \$75,000—Salmon turned over breeding decisions at his Mereworth Stud in Lexington to eugenicists. Laughlin oversaw breeding at the Mereworth stables and took special pride in the horse Discovery. The chestnut colt by Display out of Ariadne held the promise of breeding progress. Stronger, faster, and higher through science, the colt's name

evoked the same heroic exploration and thirst for knowledge that animated Henry Hudson, Captain James Cook, and, eventually, NASA.<sup>57</sup>

Foaled in 1931, Discovery had a successful racing career increasing Laughlin's popularity. After failing to distinguish himself as a two-year old, Discovery passed into the hands of Alfred G. Vanderbilt II and won 27 of his 63 starts. In front of 40,000 racing fans at Narragansett Park in Rhode Island, Discovery set a world record for one mile and three-sixteenths.<sup>58</sup> Discovery set another world record at the Brooklyn Handicap in 1935, an effort that surely contributed to his being named that year's Horse of the Year (despite Omaha's winning the 1935 Triple Crown). Racing historian John Hervey wrote, "There is no other horse in the entire range of Turf history, American or foreign, that ever attempted to do anything so tremendous or came anywhere near Discovery in doing it so successfully." After Discovery's last race, his trainer, J.H. "Bud" Stotler said, "The good Lord makes one like him every 50 years or so, and sometimes not even then."<sup>59</sup>

Instead of the caprices of God, Laughlin credited the certainties of science for Discovery's success. Laughlin's message reached millions of households through a Columbia Broadcasting System radio talk show. In December 1935, Laughlin told radio host Watson Davis of the "substantial progress" at Salmon's Lexington farm. Discovery, he boasted, had run faster and farther and under more weight than any other horse in the history

---

<sup>57</sup> E.A. Varela to H.H. Laughlin 13 Jan 1938, Harry H. Laughlin Papers, B-2 Box 2 folder 14 Racing Capacity Correspondence, Truman State University.

<sup>58</sup> "Discovery Victor" *New York Times*, September 4, 1934.

<sup>59</sup> "Discovery," National Museum of Racing and Hall of Fame, accessed February 19, 2017, [www.racingmuseum.org/hall-of-fame/discovery](http://www.racingmuseum.org/hall-of-fame/discovery).

of thoroughbred racing.<sup>60</sup> Not only was a new method of scientific breeding responsible, but that was only the beginning.

While every breeder used her own system of pedigree, intuition, and wishful thinking to choose which horses to mate, some systems had more traction than others. Bruce Lowe's Figure System and Lieutenant Colonel Vuillier's Dosage Method enjoyed wide popularity as Laughlin devised his Manerkon system. When the English began intermixing eastern blood to their native stock they relied on approximately 50 "primitive mares." Lowe numbered the matriarchal dynasties and looked at the relationship between sire and "running family." Breeders were a fickle bunch, though, and their trend-chasing led to a glut of certain racing lines. In promoting the Manerkon, Laughlin estimated that nine families made up 80% of the Stud Book. While this did not discredit Lowe in and of itself, Laughlin preferred a more precise explanation. Some of the matriarchs could be 21 generations removed from the present, meaning their individual contribution to any pedigree would be 1/1,048,572. Vuillier's theory of dosages added a degree of sophistication to Lowe's figures. Vuillier's dosages revolved around the percentage of horses figuring in the twelfth generation. The twelfth generation contains 4,096 ancestors, and "the pedigree of every good thoroughbred should conform to a standard formula" including specific dosages of famous or successful horses.<sup>61</sup> Neither of these formulas compared with Laughlin's in terms of specificity, or at least byzantine mathematics.

---

<sup>60</sup> "A Radio Talk presented Tuesday, Dec. 17, 1935, under the auspices of Science Service, over the Columbia Broadcasting System," Harry H. Laughlin Papers B-2 Box 1 folder 9 Hereditary Promise – Progeny Test Truman State University.

<sup>61</sup> "Breeding Systems and Theories" Harry H. Laughlin Papers B-2 Box 1 folder 9 Hereditary Promise – Progeny Test Truman State University.

It wasn't just the horse racing community that fancied Laughlin's work. Charles Chamberlain Hurst, a British geneticist whose 1932 book *The Mechanism of Creative Evolution* synthesized T.H. Morgan's work with Darwinian evolution, relished Laughlin's *Scientific Monthly* articles. Specializing in plant and animal breeding, Hurst operated a laboratory at the nursery in Burbage he inherited from his family. Before World War I when the British Crown seized his thoroughbreds, Hurst researched coat color and racing power in horses. While certainly not afraid to engage with math, Hurst wished he "could follow the statistical mathematics better so that I could understand it completely."<sup>62</sup> Otis W. Caldwell from Columbia's Teacher College fawned over "Racing Capacity," thinking that "nothing has been done that is superior...as a contribution to studies of inheritance."<sup>63</sup> The chief statistician at Metropolitan Life Insurance Company agreed calling the paper "a valuable addition to the literature on heredity."<sup>64</sup>

That an actuary from Met Life pored over Laughlin's work suggests that the leap from horse to human was not too far for many people to make. The popular press in particular seized on this relationship. The New York *Herald Tribune* covered Laughlin's research under a headline that read "Science Evolves Super-Horse as Step to Breeding Geniuses." The paper reported that Laughlin's Manerkon formula could "some day be used in developing supermen."<sup>65</sup> Surely in his role as Superintendent at the ERO, Laughlin

---

<sup>62</sup> C.C. Hurst to H.H. Laughlin 14 Feb 1934 Harry H. Laughlin Papers B-2 Box2 folder 6 Letters – Racing Capacity, 1935 Truman State University.

<sup>63</sup> Otis W. Caldwell to H.H. Laughlin 23 Apr 1934 Harry H. Laughlin Papers B-2 Box 2 folder 6 Letters – Racing Capacity, 1935 Truman State University.

<sup>64</sup> Louis I. Dublin to Harry H. Laughlin 30 Apr 1934 Harry H. Laughlin Papers B-2 Box 2 folder 6 Letters – Racing Capacity, 1935 Truman State University.

<sup>65</sup> "Science Evolves Super-Horse as Step to Breeding Geniuses," *New York Herald Tribune*, December 14, 1935.

encouraged this leap. “We can predict,” Laughlin asserted on a national radio broadcast, “inheritance of any *human* quality which we can learn to measure in the individual, and which is...inborn.”<sup>66</sup> Edward R. Murrow included a transcript of the interview, entitled, “Questions in Human Heredity” in an edition of his popular series “Talks.”<sup>67</sup>

What became clear from Laughlin’s research was the belief that thoroughbreds represented a population whose genes held the secrets to heredity. The popularity of horseracing in the 1930s guaranteed a large audience for Laughlin’s eugenic ideas. While Laughlin’s ideas would be discredited in the ensuing decades, in the mid-1930s they were everywhere. Thoroughbred horses provided the warrants for his claims. The powerful stories of thoroughbreds, of the Godolphin Arabian and Roxana and the harrowing passage of Darley’s Arabian stirred people’s imaginations with images of nobility and pedigree. The flattering fictions and misremembrances recorded by Weatherby and Bruce were preserved as in amber with the publications of their stud books, and these highly political animals represented neutrality and objectivity. Laughlin recast the foundation myths of thoroughbred horses in mathematical language.

---

<sup>66</sup> “A Radio Talk presented Tuesday, Dec. 17, 1935, under the auspices of Science Service, over the Columbia Broadcasting System,” Harry H. Laughlin Papers B-2 Box 1 folder 9 Hereditary Promise – Progeny Test Truman State University.

<sup>67</sup> Henry H. Laughlin to Edward R. Murrow 13 Mar 1936, Harry H. Laughlin Papers B-2 Box 4 folder 14 Truman State University.

**Chapter Eight: Futures Perfect**  
**Lexington, KY; Dubai, UAE; County Tipperary, Ireland, 2008**

Thoroughbreds differ from airplanes in at least one important way. When airplane manufacturers want to design a new plane, engineers plan it out on a computer. Software simulates wind resistance, gravity, and other forces, and, when the new airframe rolls out of the factory, it's flown right away, without wind tunnel testing.<sup>1</sup> Unfortunately for horse breeders, though, it's not so easy to model a winning racehorse.

The sheer number of variables—how genes interact with one another, how an animal responds to its environment, how ornery a horse feels on race day—makes for a thoroughbred's inscrutable kismet. In 2006, a “big, gorgeous red horse, mature for his age” fluttered pulses throughout the Fasig-Tipton select sale of two-year-old horses at Calder Race Course in Florida by running an eighth of a mile in 9.8 seconds. (The sub-ten second furlong was like the equine equivalent of Roger Bannister's cracking the four-minute mile.) Unsurprisingly, the world's two biggest bloodstock buyers, Ireland's Coolmore Stud and Dubai's Darley Stud, wanted this horse. At \$3 million, they scared away all other bidders, but Coolmore's Demi O'Byrne and Darley's John Ferguson continued bidding, working against each other like diplomats in a nuclear standoff. When the gavel fell, Coolmore Stud had purchased the colt for a record-setting \$16 million. The Irish owners named their colt The Green Monkey after a golf course in Barbados, reputedly the most expensive ever built. According to *Chicago Tribune* editor-cum-horseman Jim Squires, “The golf course turned out to be terrific; the horse turned out to be...an embarrassment.”<sup>2</sup> The Green Monkey started

---

<sup>1</sup> Robert H. Carlson, *Biology Is Technology: The Promise, Peril, and New Business of Engineering Life* (Cambridge, MA: Harvard University Press, 2010), 24-25.

<sup>2</sup> Jim Squires, *Headless Horsemen: A Tale of Chemical Colts, Subprime Sales Agents, and the Last Kentucky Derby on Steroids* (New York: Henry Holt and Company, 2009), 66, 81, 82-83, 66.

only three races in his career and never won. To understand the curious case of The Green Monkey, we need to think about two things: the thoroughbred industry's commitment to the idea of inheritance and the runaway valuations of thoroughbred bloodstock in the twentieth century.

The horse racing community has always favored biological metaphors. Searching the *Daily Racing Form* database for "DNA" brings up articles about molecular breeding and the genetics of speed as well as stories about third-generation trainers, people who have racing "in their blood." "[T]he entire shaky structure" of the thoroughbred world, racing reporter Jay Jovdey writes, "rests upon the simple proposition that class is nurtured in the womb."<sup>3</sup> This reminds me of a 1992 episode of *Seinfeld* in which Kramer overhears some horse talk on the subway. Once back above ground, he makes a beeline for an off-track betting parlor where he wins a tidy sum backing Pappanick, whose father and mother, we hear repeatedly, were both "mudders." Tradition blessed horse racing with an evocative cant, but during the twenty-first century, breeders learned to speak the universal and universalizing language of modern genetics. Technical and scientific expertise offered a way of rationalizing a market characterized by high prices, oversupply, and low demand.

Breeding animals to satisfy market demands was nothing new at the turn of the millennium. In fact, the thoroughbred itself is a three-hundred-year-old example of artificial selection producing a population of animals that excel at a specific task.<sup>4</sup> That doesn't mean either that breeders were unsophisticated rubes or that they worked completely in the dark

---

<sup>3</sup> Jay Hovdey, "Hope Rises: She's Got the Genes," *Daily Racing Form*, May 7, 2004.

<sup>4</sup> Russell, *Like Engend'ring Like*. See also, Derry, *Bred for Perfection*.

about biological inheritance. Animal and plant breeders often employed sophisticated scientific theories.

British anthropologist Rebecca Cassidy found three major influences on breeding decisions during her research in the early 2000s Bluegrass: dosage theory, the figure system, and the writings of Italian horseman Federico Tesio. Dosage theorists scour pedigrees and compare ratios of superior male ancestors, horses French Lieutenant Colonel J.J. Veullier deemed *chefs-de-race*, to estimate which distances might suit a horse best. The figure system, developed by Australian Bruce Lowe in the nineteenth century, emphasizes the role of the mare on a horse's inherited speed. Lowe traced every mare in the *General Stud Book* back to her "taproot" assigning these families a number from one to forty-three. The lower the number the better the racers. Family one represented the mare represented most in the pedigrees of winners of important British stakes races.<sup>5</sup> Federico Tesio believed "all life is based on the consumption of energy to gain supremacy and on rest to restore that energy." Thus, he wrote, "In the rivalry for the selection of racing stock no thoroughbred family can hold the supremacy of success for more than a small number of generations in direct line." In other words, Tesio described a system in which one bloodline gets hot and produces more winners relative to other families. Eventually this luck runs out and the Tesio-inspired breeder looks to other bloodlines for their young racers.<sup>6</sup> Over the past two decades, breeders have added genetic analysis to their grab bag of common-sense tacit knowledge, highfalutin theory, and utter hokum.

---

<sup>5</sup> Cassidy, *Horse People*, 44, 37-40, 45-46.

<sup>6</sup> Federico Tesio, *Breeding the Racehorse*, ed. and trans. Edward Spinola (London: J.A. Allen, 1958), 85 quoted in Cassidy, *Horse People*, 49.

DNA is both a biological and a cultural artifact. Following the success of the Human Genome Project, scientists told new stories about humanity using the language of the genome. Spencer Wells, the head of the National Geographic Society's Genographic Project, uses DNA as a primary source to construct the history of humankind. In the *Journey of Man*, Wells argues that human history is a story of migration. The species originated in Africa and traveled out from there.<sup>7</sup> Historians and social scientists, too, have drawn some conclusions from the Human Genome Project. Sociologist Jenny Reardon argues that questions about the meanings and applications of the fully-sequenced human genome mark the "postgenomic condition" in which claims about genetics inform decisions about citizenship, truth, and justice.<sup>8</sup> As researchers look more closely at the genome, its contents challenge previously held scientific truths.<sup>9</sup> Nevertheless, scientists use the language of DNA to write narratives that, as Terence Keel writes, "disclose primordial truths hidden in our biology."<sup>10</sup> These narratives rely on both the "social power" of DNA and the "social life" of DNA, or what sociologist Dorothy Nelkin and historian M. Susan Lindee term the "DNA mystique."<sup>11</sup> Genetic storytelling focused largely on the past, on determining where someone or something has been. While the past is hardly neutral terrain, it may be somewhat less explosive than the

---

<sup>7</sup> Spencer Wells, *The Journey of Man: A Genetic Odyssey* (Princeton: Princeton University Press, 2002).

<sup>8</sup> Jenny Reardon, *The Postgenomic Condition: Ethics, Justice, and Knowledge After the Genome* (Chicago: University of Chicago Press, 2017), 2, 207.

<sup>9</sup> Elizabeth Finkel, *The Genome Generation* (Melbourne: Melbourne University Press, 2012), xii.

<sup>10</sup> Terence Keel, *Divine Variations: How Christian Thought Became Racial Science* (Stanford, CA: Stanford University Press, 2018), 4.

<sup>11</sup> Alondra Nelson, *The Social Life of DNA: Race, Reparations, and Reconciliation After the Genome* (Boston: Beacon Press, 2016), 3-4; Dorothy Nelkin and M. Susan Lindee, *The DNA Mystique: The Gene as a Cultural Icon*, 2<sup>nd</sup> ed. (Ann Arbor: University of Michigan Press, 2004).

future. With humans, at least, the stories about the future tend to stick to inherited diseases like Huntington's, Tay-Sachs, Cystic Fibrosis, and Sickle Cell Disease.<sup>12</sup>

Almost the opposite is true with horses. The racing community tried using the horse genome as a crystal ball to predict outcomes of future races or potential matings. Beginning in the 1980s, bloodstock purchasers from Ireland and the Emirates—and more than a few Wall Street firms—stampeded to Kentucky's Bluegrass Region. The price of bloodstock reached record heights as new investors inflated what's now known as the Bluegrass Bubble.<sup>13</sup> With so much money on the line, breeders looked to science for a competitive advantage. Thoroughbred breeders, long obsessed with genealogy, began reading DNA forward instead of backward. Genomics became the language of a globalized breeding industry promising insulation from the vicissitudes of both biology and economy. While good horses still bred poor runners and the market behaved irrationally, the discourse of genomics gave the illusion of security. Genetic determinism resolved uncertainty.

Racehorse breeders have always told stories about their animals. They've been telling origin stories about the breed for three hundred years, and those stories are remarkably stable whether told through novels or genes.<sup>14</sup> Reading the past in the world of thoroughbred racing is predictive. Bettors pore over charts of past performances and compare pedigrees before

---

<sup>12</sup> See Monica Konrad, *Narrating the New Predictive Genetics: Ethics, Ethnography and Science* (New York: Cambridge University Press, 2005); Keith Wailoo & Stephen Pemberton, *The Troubled Dream of Genetic Medicine: Ethnicity and Innovation in Tay-Sachs, Cystic Fibrosis, and Sickle Cell Disease* (Baltimore: Johns Hopkins University Press, 2006); and Robert L. Klitzman, M.D., *Am I My Genes? Confronting Fate and Family Secrets in the Age of Genetic Testing* (New York: Oxford University Press, 2012).

<sup>13</sup> For a discussion of the Bluegrass Bubble, see Ann Hagedorn Auerbach, *Wild Ride: The Rise and Tragic Fall of Calumet Farm, Inc., America's Premier Racing Dynasty* (New York: Henry Holt and Company, 1994), 107-25.

<sup>14</sup> See for instance, M.A. Bower, et al., "The Cosmopolitan Maternal Heritage," 319; and Eugène Sue, *The Godolphin Arabian: Or, the History of a Thorough-Bred* (London: Chapman and Elcoate, 1845).

placing a wager. Past performances establish a trajectory. The turn to molecular breeding repeats the process; it is a story of scientism, both in the sense that it privileges the knowledge produced by scientists and that it seeks a scientific solution to social issues. Horse breeders turned to biology to bring order to unstable markets.

Before The Green Monkey disappointed legions of Irish racing fans, the previous record for a thoroughbred horse, \$13.1 million paid for Seattle Dancer in 1985, occurred during the height of the Bluegrass Bubble. Between the 1960s and the 1980s, the stodgy and somewhat provincial world of horseracing underwent a remarkable transformation. The average price of yearlings sold at the July auctions at Keeneland Race Course in Lexington increased from \$11,844 to \$200,425—an increase of more than 1,500 per cent; the 1960 auction topped out at \$75,000, less than one per cent the 1985 record. Inflation hardly accounts for the difference. The newfound interest in racing stock affected the Kentucky landscape as well. In 1950, the Bluegrass had about 175 farms valued at \$300 million. By 1980, the state boasted at least 400 farms for breeding thoroughbreds. The value of these farms approached \$2 billion. In Fayette County, where Lexington is, land sold for as much as \$12,000 an acre in 1980.<sup>15</sup> Profits of this magnitude changed the business of breeding.

New forms of horse ownership aided speculation. Since at least the mid-nineteenth century, investors had pooled their money to buy half- or quarter shares of racehorses, but the scale of syndication increased in the mid-twentieth century. The modern thoroughbred syndicate began in 1946 when Leslie Combs, the founder of Spendthrift Farm whom Jim

---

<sup>15</sup> Auerbach, *Wild Ride*, 107-08.

Squires called the P.T. Barnum of the horse industry, bought the stallion Beau Pere from movie magnate Louis B. Mayer. Mayer wanted \$100,000 for his spectacular stallion, and Combs raised the money by offering twenty shares at \$5,000 each. In 1962, when John R. Gaines, an heir to a dog food fortune, entered the thoroughbred business, it was common for Kentucky farmers to trade fortieth shares of stallions. Gaines earned an advantage by slicing stallions into smaller sections. With sixty shares, Gaines outbid even the most aggressive buyers at bloodstock auctions.<sup>16</sup> While domestic buyers figured out ways to spread the risk and raise the prices of thoroughbred ownership, foreign investors—and their amenable governments—turned buying thoroughbred stock into a blood sport.

The Celtic Tiger could've been a thoroughbred. Coolmore Stud, based in County Tipperary, is the world's largest thoroughbred racing and breeding operation raising horses in Ireland, Australia, and Kentucky. John Magnier, the head of Coolmore, thinks of his business in nationalist terms related to the "instinctive understanding the Irish have of...horses." The Irish nation helped Coolmore along by making stud fees, the most profitable wing of thoroughbred racing, tax exempt in 1968.<sup>17</sup> Coolmore always had a national bent. Magnier launched the stud in 1974 with funding from British betting magnate Robert Sangster to keep the best Irish bloodstock in the country rather than heading to Kentucky to stand at American stud farms.<sup>18</sup> When the 2008 banking crisis began, the head of the European Central Bank failed to reach the Irish Minister of Finance by phone, because he was at the Gowran Park

---

<sup>16</sup> Squires, *Headless Horsemen*, 57-58.

<sup>17</sup> Conley, *Stud*, 12-13.

<sup>18</sup> John Murray Brown, "Lame Industry Limp on Amid Pain of a Tiger's Demise," *Horseracing: Financial Times Special Report*, June 4, 2011.

racers. The Irish poet and cultural critic Michael Hinds suggests the thoroughbred as an apt metaphor for the rise and fall of the Irish economy. Hinds writes, “Just about the most successful Irish business of the twenty-first century...specialized in the trading of these chancy wares.”<sup>19</sup> Irish state policy supported the spiraling prices at Kentucky horse auctions.

Without a rival Coolmore alone wouldn't have driven prices in the Bluegrass up too much, but the Maktoums, members of the Dubai royal family—known locally in Kentucky as the Doobie Brothers—landed their private Boeing 727 at the tiny Bluegrass Airport for Keeneland's 1980 yearling sale. The Doobie Brothers, Sheikh Mohammed, Sheikh Hamdan, and Sheikh Maktoum (who died in 2006), descend from Sheikh Maktoum bin Buti of the Al Bu Falasah group of the Bani Yas tribe who declared Dubai independent from Abu Dhabi. The brothers' arrival on the horse racing scene had a dual purpose: to diversify the Emirate's economy and, as the billboard plastered across the entrance to Al Quoz stables in Dubai reads, to bring the racehorse home.<sup>20</sup> According to Sheikh Mohammed “horses have been bred for centuries by Arabic tribes...They symbolize our history.”<sup>21</sup>

The Maktoums' plane touched down just in time for the excess at the beginning of the Bluegrass Bubble. On the Sunday night before the sales, a local breeder threw a party featuring an array of international foods, entertainment by Bob Hope, and helicopter rides over the verdant Inner Bluegrass.<sup>22</sup> Caged lions and tigers as well as camel and elephant rides

---

<sup>19</sup> Michael Hinds, “Irish Racing's Peacable Kingdoms,” in Cassidy, *The Cambridge Companion to Horseracing*, 108.

<sup>20</sup> Rachel Pagonis, “The Dubai Connection,” in Cassidy, *The Cambridge Companion to Horseracing*, 149.

<sup>21</sup> Sheikh Mohammed bin Rashid Al Maktoum quoted in Robin Cherry, “All the Sheikh's Horses,” *Atlantic*, April 2010.

<sup>22</sup> Steve Cady, “The High-Stakes World of Horse Breeding,” *New York Times*, July 12, 1981.

lent a degree of exoticism to the expensive affair. The Maktoums spent \$4.6 million at that sale; they returned the next year to spend \$10.7 million. Within several years the brothers would spend nearly half a billion dollars on American bloodstock.<sup>23</sup> The addition of international buyers, Coolmore Stud and the Emiratis, to the Kentucky bloodstock market in the 1980s changed the business from an avocation of local blue bloods with aristocratic pretensions into a global and highly capitalized activity.

Around the same time, a completely different type of gambler had gotten wind of the gains being made in the breeding shed. Stallions with the most fashionable blood could just about print money for their owners. In the go-go 1980s, a single breeding to Seattle Slew cost \$710,000. News must have wended its way up to corporate boardrooms from the Financial District OTB the way a hot tip makes its way around the track whisper by whisper. Spectacular Bid, the 1979 Kentucky Derby and Preakness Winner, cost his owners \$37,000 to buy as a yearling. He won \$2.8 million in purse money; in 1984 he was worth \$22 million as a stallion. How could Wall Street not have been interested? Merrill Lynch raised \$20 million in an equine partnership offering in 1984.<sup>24</sup> Bankers realized stallions weren't the only things they could syndicate. Prudential Securities handled the stock offering of Spendthrift Farm in 1983. The private sale drew thirty-four investors, including fashion designer Calvin Klein, and raised \$33 million for the company. Later that year Spendthrift went public, offering 650,000 shares at \$12 a pop for five per cent of the company.<sup>25</sup> The glossy prospectus included an illustrated thoroughbred lifecycle and a glossary of breeding

---

<sup>23</sup> Auerbach, *Wild Ride*, 122, 124.

<sup>24</sup> *Ibid.*, 159-60.

<sup>25</sup> "The Rise and Fall of Spendthrift Farm," *New York Times*, June 2, 1986.

terms that might be unfamiliar to slick, big city investors. By the mid-1980s Wall Street had set up operations on the Frankfort Road. In addition to Spendthrift Farm, four other thoroughbred companies sold over-the-counter stock: Big Apple Farm in Goshen, New York; Empire Breeders Inc. in Massapequa, Long Island; International Thoroughbred Breeders Inc. in East Windsor, New Jersey; and Sovereign Thoroughbreds Inc., just over the George Washington Bridge from Manhattan in Fort Lee, New Jersey.<sup>26</sup> Breeders produced the horses; bankers did the financing, and everybody made money.

Loafered executives might have seemed out of place in the blue jeans and work boots world of breeding farms, but during the Bluegrass Bubble banking was as much a part of the industry as mucking stables. As prices rose, even established breeders couldn't afford to stay in the game without borrowing. The deregulation of the banking industry in the 1980s meant that increased competition had lowered margins, and, to stay profitable, bankers needed to find more people to lend to.<sup>27</sup> Breeding farms used the paper value of their stallions as collateral on loans used to purchase new bloodstock. During this period of rampant speculation and sky-high prices, the horse industry was valued at between twelve and twenty billion dollars a year. A report in the mid-1980s revealed that the horse industry accounted for nearly twenty per cent of the agricultural sector of the national economy.<sup>28</sup> Horses held value for investors, and very little distinguished bloodstock from other types of stocks and bonds. A representative of the Fasig-Tipton auctioneers told the *New York Times* in 1981 that

---

<sup>26</sup> "Playing the Horses on Wall St.," *New York Times*, April 25, 1984.

<sup>27</sup> For a readable history of the 1980s savings and loan crisis see James B. Stewart, *Den of Thieves* (New York: Touchstone, 1992).

<sup>28</sup> Auerbach, *Wild Ride*, 163-64.

thoroughbreds were a “pretty valid international coin: sought by the strongest currency, not subject to tariff barriers, highly liquid in that it can be converted easily to dollars or francs or yen or whatever.”<sup>29</sup>

While Jockey Club members, sheikhs, and other big-time investors still coveted horses with potential to win a Triple Crown, speculation led to the breeding of horses specifically for the sales ring rather than the race track. “In the late 1980s,” breeder Jim Squires remembers, “most horses arrived at thoroughbred sales looking as if they’d just been led out of the pasture and had the mud brushed off.” Back then, buying a yearling was a multi-year investment; a horse couldn’t win the Triple Crown until its three-year-old season. They had had little in terms of exercise and lacked the impressive musculature of a horse in training.<sup>30</sup> But winning classics races wasn’t the point of the “sale horse.” Precocious, well-muscled, groomed, and capable of running an eighth of a mile as fast as a quarter horse, yearlings in the early 1990s regularly brought in more than double what leading racehorses could earn racing. Horses became instruments of speculation. Breeders paid exorbitant stud fees knowing that they could double or treble their investment at the yearling sales. Further down the line there would be investors willing to pay for breeding seasons, broodmares, and foals.<sup>31</sup> It was profits all the way down. The market changed not only the industry, but also the horses themselves.

Thoroughbreds have remarkably fragile legs, and they struggled to bear the weight of the entire industry. Spendthrift Farm, the first thoroughbred farm issuing an IPO, felt the

---

<sup>29</sup> Cady, “The High-Stakes World of Horse Breeding.”

<sup>30</sup> Squires, *Headless Horsemen*, 74, 67-68.

<sup>31</sup> Auerbach, *Wild Ride*, 108, 119.

pressure of its expansion when the market slowed. The farm borrowed to cover expensive stud fees and to expand its holdings. The farm's debt increased more than tenfold in four years, peaking at \$64.9 million by the end of the 1985 fiscal year.<sup>32</sup> By 1993 Spendthrift's wild ride was over. The farm sold at bankruptcy auction. Metropolitan Life Insurance Company, the lender that forced the sale, was the buyer and sole bidder.<sup>33</sup>

While Spendthrift nosedived, nobody failed more spectacularly when the Bluegrass Bubble burst than Calumet Farm. William Monroe Wright, the founder of the Calumet Baking Powder Company, established a trotting horse farm in Lexington in 1924. Wright's son, Warren, took over Calumet Farm in 1932 and started raising thoroughbreds. Over the next six decades, Calumet Farm would raise more champion horses than any other farm in the Bluegrass. J.T. Lundy married into the family and took over operations at Calumet. A Bluegrass local, Lundy undertook to modernize the property he felt was old-fashioned and dilapidated. He added a veterinary hospital and a round equine swimming pool. To finance his capital projects, Lundy borrowed from out-of-state banks eager to share in the wealth generated by rising bloodstock prices. Beginning in 1983, every six months or so, Lundy would set up an eight-figure cash infusion putting up the lifetime breeding rights he had sold to his stallion Alydar as collateral. Lundy shocked his Bluegrass neighbors by breeding Alydar to nearly one hundred mares a year, more than twice the number served by typical stallions. Alydar's stud fees were the most profitable piece of Calumet Farm and the only way for Lundy to finance his extravagances.<sup>34</sup>

---

<sup>32</sup> Richard Koenig, "Spendthrift Farm, Once Highly Touted, Now Symbolizes Risks of Horse Trading," *Wall Street Journal*, November 4, 1986.

<sup>33</sup> "Horse Racing; Horse Farm Sold at Auction," Associated Press, March 15, 1993.

<sup>34</sup> Carol Flak, "The Killing Fields," *Connoisseur*, February 1992, 48-53, 99-104.

In a twist that wouldn't seem out of place in a Dick Francis novel, one night a guard found Alydar standing in his stall sweating profusely and obviously in distress. The story given (and accepted by a claim's adjuster working for Lloyd's of London) was that Alydar must have kicked the stall wall at some point in the night with enough force to break his leg. Veterinarians stayed with Alydar all night, and he underwent surgery in the morning. Despite the long odds, the procedure seemed successful; however, ungainly in a cast, Alydar moved awkwardly in his stall injuring another leg. This second fracture proved fatal. Specialists speculated that Alydar's first injury seemed more consistent with trauma than kicking in a stall; nevertheless, the insurers paid up. One of the banks Lundy borrowed from suffered major setbacks in the 1980s, and the beleaguered lender took more than half the payout immediately. On top of that, Alydar hadn't been bringing that much money to the farm. Between lifetime breeding rights, bonus seasons, and numerous rights already paid or traded for, Alydar was adding less than \$5 million a year to the farm's ledgers.<sup>35</sup> J.T. Lundy staked too much of Calumet's future on Alydar and he buried the farm's prospects along with its leading stallion. The 850-acre property and its thirty-eight buildings went to auction March 26, 1992.<sup>36</sup> Both Alydar and Calumet Farm fell as casualties of the inflated prices of the Bluegrass Bubble.

The uncertainty brought to the Bluegrass by volatile prices led breeders to look for new ways to model predictive breeding. Steve Cady, the journalist who ran the horse racing beat for the

---

<sup>35</sup> Ibid., 103.

<sup>36</sup> Calumet Farm Real Property Auction Catalog, Calumet Farm Collection, International Museum of the Horse, Lexington, Kentucky.

*New York Times* in the 1980s, observed during that period that besides the influx of foreign capital to the Keeneland and Saratoga sales the “biggest change in horse racing...[was] that the inexact science of breeding has become increasingly scientific. Breeding race horses was a “geneticist’s dream.” Every member of the breed was documented by the Jockey Club, and interested parties could check the results of different breeding experiments against racing data extending back to the 1790s. Through the 1970s and into the apogee of the Bluegrass bubble, the Bloodstock Research and Statistical Bureau provided a variety of data on thoroughbreds for hundreds of subscribers around the world. The firm leased time on its computer system offering a sort of Bloomberg terminal for the racing world. Some bloodline experts thought this computer-read data-driven pedigree analysis took thoroughbred breeding to a “new plateau.”<sup>37</sup>

In broad terms, genetics and tradition told the same story. Around the turn of the eighteenth century, English aristocrats brought horses from the Near East back to Great Britain and mated them to native British stock. James Weatherby collected the pedigrees of these fast-running half-breeds and published the *General Stud Book* in 1791 effectively closing the breed. The story breaks down the closer we look at it. Comparing mitochondrial DNA, the type of DNA passed on maternally, with stud book entries shows inconsistencies between what is and what ought to be; the stud book records didn’t match the DNA evidence. It’s natural for there to have been some slippage in the record-keeping over the three-hundred-year history of the thoroughbred, but Stephen Harrison, founder of the UK firm Thoroughbred Genetics, has found examples of horses foaled as late as 1973 whose

---

<sup>37</sup> Cady, “The High-Stakes World of Horse Breeding.”

mitochondrial DNA didn't match the horse listed as its mother in the records.<sup>38</sup> Accidents—if a recording error happened within the cell, we'd call it a mutation—and fraud threatens the entire edifice of the thoroughbred industry. So much depends on narrating a horse's genealogy.

As the distance between researchers and the foundation sires grew, the storytelling became more definitive. The stud books, hagiographies, and nationalist myths yielded to haplotype maps, mitochondrial DNA, and single nucleotide polymorphisms. An obituary for long-time *Daily Racing Form* reporter Leon Rasmussen observed that many of the reporter's articles “may have sounded to many readers like Cal Tech nerd-speak, replete with formulas and diagrams.”<sup>39</sup> Horse racing mythology reveres the foundation sires, the stallions taken to Great Britain from the Middle East and from whom all current thoroughbreds descend, but scant evidence exists for the seventy-four foundation mares some recorded simply as in the *General Stud Book* as “A Royal Mare.” Genetic research suggests that these mothers of the breed “were of a cosmopolitan European heritage, with contributions from British Native and Oriental horses.”<sup>40</sup> Ten “founder” females comprise the maternal lineages of 72 per cent of modern thoroughbreds; one horse, the Darley Arabian, accounts for 95 per cent of paternal lines.<sup>41</sup>

In October, 1995, Seventy scientists from twenty countries gathered in Lexington, Kentucky. The multi-billion-dollar Human Genome Project hogged the headlines, but these

---

<sup>38</sup> Byron Rogers, “Looking Forward at the Past,” *Blood-Horse*, April 11, 2006.

<sup>39</sup> Jay Hovdey, “A Long Life Poring over Pedigrees,” *Daily Racing Form*, April 9, 2003.

<sup>40</sup> M.A. Bower, et al., “The Cosmopolitan Maternal Heritage of the Thoroughbred Racehorse,” 319.

<sup>41</sup> Deirdre Biles, “Genetically Speaking,” *Blood-Horse*, January 28, 2003.

researchers studied a different animal, the horse. They agreed to collaborate on a genetic map of *Equus caballus*. Initially, the group planned only on mapping the genome: they'd identify genetic landmarks on all thirty-two pairs of chromosomes to establish points of reference for comparison with the human genome. By 2005, advances from the Human Genome Project complicated how scientists thought about DNA. Researchers realized genomes contained far fewer genes than they expected. The horse genome, for instance, had only about 20,000 genes, far fewer than the 100,000 to 300,000 scientists expected. Genes represented only about two per cent of a horse's DNA. Turned out the rest—what researchers had dismissed as “junk DNA”—was unique between species. To understand how horses' genes worked, geneticists needed to sequence the “junk.” Workshop participants submitted a funding proposal to the National Human Genome Research Institute (NHGI), part of the National Institutes of Health (NIH).<sup>42</sup> Horses share over ninety genetic diseases with humans, and, recognizing the need to develop genomic tools for biomedical research in both horse and humans, the NHGI funded the sequencing efforts of the Horse Genome Project. The Horse Genome Project promised insights into curing some of the 90 genetic illnesses horses share with humans, but almost immediately after the sequencing of genome, commercial firms sold the science as predictive.

With \$15 million of funding from NIH, the Horse Genome Project sequenced the DNA of Twilight, a thoroughbred mare owned by Cornell University. Researchers at the Broad Institute of MIT and Harvard used conventional capillary DNA sequencing to analyze the approximately 2.7 billion nucleotides of the horse genome. In late 2009, the Broad team

---

<sup>42</sup> “About the Horse Genome Project,” Horse Genome Project. Last modified October 2, 2014, [www.uky.edu/Ag/Horsemap/abthgp.html](http://www.uky.edu/Ag/Horsemap/abthgp.html).

published a paper in *Science* announcing the completion of their project.<sup>43</sup> Members of the Horse Genome Project tempered expectations about the applications of their research particularly for a breeding industry keen on getting an advantage. “Some horsemen may worry that once the horse genome is sequenced,” the Horse Genome Project website read, “all the mystery and magic will be gone from horse breeding and ownership—colorful characters around a racetrack replaced by colorless scientists with computer printouts and test tubes. Fear not. The study of the horse genome is more like studying the weather than inventing a sports car.”<sup>44</sup>

Although the scientists with the Horse Genome Project expressed the limitations of genomic knowledge, sometimes, though, biology is destiny. Take Huntington’s chorea for instance. A mutation on a human’s fourth chromosome causes the genetic phrase CAG to repeat too many times. The unaffected have fewer than thirty-five repetitions, but if that genetic phrase appears thirty-nine or more times, the possessor of a few extra copies of a simple three-base repetition will, at some point in mid-life, start losing their faculties. Balance goes first then the intellectual faculties. The afflicted then lose control of their limbs, fall into deep depression, and occasionally hallucinate before succumbing to an early death. “No horoscope matches this accuracy,” science journalist Matt Ridley writes. “No theory of human causality, Freudian, Marxist, Christian or animist, has ever been so precise.”<sup>45</sup> A handful of extra repetitions in a genome of over three billion base pairs passes along an

---

<sup>43</sup> “Domestic Horse Genome Sequenced,” *Science Daily*, Nov 5, 2009.

<sup>44</sup> “Horse Genome Project,” Horse Genome Project. Last modified October 2, 2014, [www.uky.edu/Ag/Horsemap/](http://www.uky.edu/Ag/Horsemap/)

<sup>45</sup> Matt Ridley, *Genome: The Autobiography of a Species in 23 Chapters* (New York: HarperCollins, 1999), 55-56.

incommutable death sentence. People knew that sometimes genes spoke with certainty, and businesses exploited this association.

Within months of the announcement of the full sequencing of the horse genome, firms began cashing in on the commercial potential of horse genomics. For €1000, the Irish company Equinome offered a DNA test based on the Horse Genome Project. Scientists at Equinome would test horses for a gene governing production of myostatin, a protein that regulates muscle production. Based on these results, Equinome's scientists could predict whether a horse would perform best over sprints, middle distances, or long distances. Performance prediction represented a brave new world for horse genetics according to Ernest Bailey, a geneticist at the Gluck Equine Research Center at the University of Kentucky. Headlines in journals as prestigious as *Science* proclaimed, "Horse Genome Bet Pays Off."<sup>46</sup> Breeders regularly used DNA to narrate a horse's past, testing for paternity or predisposition to genetic diseases, but companies like Equinome read DNA forward and recast geneticists not as historians but as soothsayers.

Horse breeding has always been conservative in the literal sense; breeders identified desirable traits in one generation and tried reproducing them in the next—this is how breeds of all types originated. Until recently, a successful breeder would pore over pedigrees and race results like an alchemist looking for the right admixture of speed and stamina to make a winning horse. Researchers from Cambridge University and the Royal Veterinary College sampled DNA from Eclipse, who went undefeated during his eighteenth-century racing career (1769-1770) and whom many consider the best race horse ever. Researchers proposed comparing Eclipse's DNA to living thoroughbreds to determine which genes persisted across

---

<sup>46</sup> "Horse Genome Bet Pays Off," *Science*, February 1, 2010.

the dozens of generations separating these horses. While Matthew Binns, the lead investigator, wanted to create a map of inherited diseases, Emmeline Hill from University College Dublin thought DNA from the venerable horse might point researchers to genes for speed and stamina giving breeders and owners “an extra level of information.”<sup>47</sup>

Emmeline Hill grew up on a horse farm in County Wexford, Ireland. She comes from a horse racing family; her grandmother, Charmian Hill, was a thoroughbred owner known as the “galloping granny.” One summer while she was in university at Trinity College Dublin, Hill worked in the stables of an Irish breeder. She pursued a degree in genetics and did her graduate work on human population genetics and sleeping sickness in African cattle.<sup>48</sup> After she graduated, she felt the pull of her past and the promise of horse racing’s future. In 2004, Science Foundation Ireland gave her money to research how genetics influences racing performance in thoroughbred horses. A President of Ireland Young Researcher Award that same year allowed Hill to establish the world’s first academic research program dedicated to the genetics of athletic performance in thoroughbreds at University College Dublin. The Horse Genome Project opened new research tools to Hill and her collaborators. Using DNA samples taken from horses from Ireland and around the world to build a set of reference samples, Hill’s team found a gene that had “an unexpectedly large and singular” effect on the types of races a horse excelled at. With a touch of showmanship, Hill called this the “Speed Gene.”<sup>49</sup> Hill’s research promised to add a degree of scientific authority to a term of art.

---

<sup>47</sup> Anne Casselman, “The Genetics of a Great Racehorse,” *Discover*, December 2005.

<sup>48</sup> Adam Piore and Katie Bo Williams, “Can Science Breed the Next Secretariat?” *Nautilus*, August 4, 2016.

<sup>49</sup> “Using DNA to Pick a Winner: Dr. Emmeline Hill,” UCD Impact Case Study, accessed May 8, 2018, [www.ucd.ie/t4cms/CASE\\_STUDY7\\_Emmeline%20Hill.pdf](http://www.ucd.ie/t4cms/CASE_STUDY7_Emmeline%20Hill.pdf).

The speed gene doesn't produce speed, per se. Jim Bolger, an Irish breeder and trainer whose horses have won dozens of European stakes races, called the speed gene "Without a doubt the most important thing that has happened to breeding since it began over 300 years ago."<sup>50</sup> The gene correlates with increased musculature and precocity. Hill and her team found that horses with two copies of an allele for the myostatin gene. Hill and her colleagues refer to these horses as CC, and they excel at sprinting. A single copy of the gene, CT in genetic terms, correlates to middle distance running. Stayers show no copies of the speed gene. Hill classifies these horses as TT.<sup>51</sup> Hill spun off her research to form Equinome. The firm developed, in 2011, a test to identify horses with the greatest genetic potential to win races.<sup>52</sup> Firms spinning off from scientific research argued that the best way to read a horse's past performances was in its DNA.

Hill's firm was just one of the companies rushing to sell a genetics-based future in the wake of the Horse Genome Project. In addition to Equinome's speed gene test, several other proprietary genetic tests offered breeders an inside track to breeding the next superstar racer. The Lexington, KY, bloodstock consultants LifeLine Labs, LLC, began offering its Pegasus Profile in 2010. Using a small blood sample, scientists at LifeLine compared a horse's blood sample to a database of more than 1000 thoroughbreds of varying racing ability and told clients which population, elite sprinters or stakes winners, for example, their horse's genotype most closely matched.<sup>53</sup> The UK-based Thoroughbred Genetics, Ltd. opened its

---

<sup>50</sup> Dan Liebman, "Inexact Science," *Blood-Horse*, January 26, 2010.

<sup>51</sup> Robert L. Losey, "A Geneticist's Take on the 'Speed Gene,'" *Blood-Horse*, July 1, 2017.

<sup>52</sup> "Using DNA to Pick a Winner: Dr. Emmeline Hill," UCD Impact Case Study, accessed May 8, 2018, [www.ucd.ie/t4cms/CASE\\_STUDY7\\_Emmeline%20Hill.pdf](http://www.ucd.ie/t4cms/CASE_STUDY7_Emmeline%20Hill.pdf).

<sup>53</sup> "Analysis," Pegasus Profile, accessed May 8, 2018, [www.pegasusprofile.com/our-services/analysis](http://www.pegasusprofile.com/our-services/analysis).

doors in 2000, offering bloodstock consultations for breeders. Nowadays, the firm acts as a postmodern matchmaker, analyzing horses' DNA and providing a list of complementary stallions or the types of mares likely to produce a champion.<sup>54</sup> New firms used the technology and data produced by the Horse Genome Project to make predictions about the performance potential of unraced Thoroughbreds and hypothetical foals.<sup>55</sup> In the high-stakes world of horse racing, these pronouncements were more than academic exercises.

On 11 October 2010, the *Blood-Horse*, a leading US trade magazine for thoroughbred breeders, hosted six leaders in the fields of pedigree analysis and genetics at the first Thoroughbred Pedigree and Genetics Symposium. By bringing the world's leading equine geneticists to a Marriot in Lexington, KY, organizers hoped they could help thoroughbred breeders to make sense of the developments in genomics and to parse the promises of genetic bloodstock analysts.<sup>56</sup> Scientists and veterinarians representing commercial breeding outfits as well as academic research institutes. The *Blood-Horse* held another symposium a year later, again coinciding with the resumption of racing at the Keeneland racetrack in Lexington. Matthew Binns, a founding member of the Equine Genome Project and an adjunct professor in the University of Kentucky Department of Veterinary Science, encapsulated the new enthusiasm for genomic breeding. "Is genetics important to the horse industry?" he posed the rhetorical question to his audience. "A major determinant of sale

---

<sup>54</sup> "Service," Thoroughbred Genetics, accessed May 8, 2018, [http://thoroughbredgenetics.com/standard\\_services.html](http://thoroughbredgenetics.com/standard_services.html).

<sup>55</sup> Glenye Cain Oakford, "New Bloodstock Company Formed," *Daily Racing Form*, September 2, 2011.

<sup>56</sup> "Thoroughbred Pedigree and Genetics Symposium Oct. 11," *Horse*, August 22, 2010.

prices is the pedigree. And pedigree can be thought of as a surrogate for genetics.”<sup>57</sup> Modern biology repainted the early-modern fascination with pedigree to fit twentieth-century tastes.

The horse genome became like Esperanto for thoroughbred breeders. Thoroughbreds originated in England three hundred years ago and then spread around the world. Today they’re found everywhere from Argentina to Zimbabwe. Equine genetics research followed apace. In addition to the US-based NIH, the Horse Genome Project received funding from Germany’s Volkswagen Foundation and Italy’s Programmi di Ricerca Scientifica di Rilevante Interesse Nazionale.<sup>58</sup> Founded in 1965 to protect the Japanese thoroughbred industry from illegal performance enhancing drugs, the Laboratory of Racing Chemistry (LRC) also tests thoroughbred DNA for the Japanese *Stud Book*. In addition to confirming parentage, the LRC performs basic research. As “[m]olecular biology became the common language” of thoroughbred breeding, international racing associations collaborated. Racing associations in Canada, the United States, and Australia, for example, use genetic markers identified at the LRC.<sup>59</sup> Teruaki Tozaki and his LRC team linked particular genotypes to phenotypic outcomes in body weight-to-height ratios.<sup>60</sup> As Daniel R. Verdon observed in *DVM Newsmagazine*, a magazine for veterinarians and animal medicine researchers, “The [genome] map went global and [was] made available to genetics researchers to spur new

---

<sup>57</sup> Erica Larson, “Selecting a Thoroughbred: The Role of Genetics,” *Blood-Horse*, September 29, 2011.

<sup>58</sup> “Complete Horse Genome Sequence Unveiled,” *DVM Newsmagazine*, December 2009, 12.

<sup>59</sup> “Laboratory of Racing Chemistry,” Laboratory of Racing Chemistry, accessed May 8 2018, [www.lrc.or.jp/english/](http://www.lrc.or.jp/english/).

<sup>60</sup> Stacey Oke, “Myostatin Gene in Thoroughbreds: Further Research Completed,” *Blood-Horse*, August 19, 2011.

studies.”<sup>61</sup> The excitement and potential of full-genome sequencing found an enthusiastic and well-funded audience in the horse world.

International collaboration led to the identification of several genes that affect thoroughbred racing performance. Scientists isolated genes coding for skeletal muscle adaptation to exercise, glucose regulation, and respiration. Unlike scientists collaborating on an international project or publishing in peer-reviewed journals, commercial geneticists keep their data to themselves. Proprietary data sets are how scientists at commercial genomics outfits find correlations between genes and successful racers.<sup>62</sup> To build its own database, a Kentucky stud farm included a clause in its 2018 contracts reserving the right to collect broodmares’ hair samples for identity confirmation and genetic analysis.<sup>63</sup>

Commercialization had its discontents, though. The promise of molecular breeding didn’t impress Dan Liebman, an analyst for the *Blood-Horse*. Predicting and avoiding diseases would have warranted the chorus of excited voices, but “being able to use genetics to breed a horse that can win at six furlongs but not at eight, is well, not something breeders should be interested in,” Liebman writes.<sup>64</sup> Some trainers were downright dismissive of genetic testing. Using pedigree charts and a horse’s appearance, tradition-bound trainers claim they can spot a good horse when they see one. Besides, they argued, “genetics can never account for the ineffable qualities of a champion.”<sup>65</sup>

---

<sup>61</sup> Daniel R. Verdon, “The Genetic Puzzle,” *DVM Newsmagazine*, March 2007, 22.

<sup>62</sup> Jenni Laidman, “Triple Crown-Bound Horse Breeders Start to Look to Genetics,” *Scientific American*, May 4, 2012.

<sup>63</sup> Natalie Voss, “Will DNA Profiling Create the Perfect Thoroughbred? Hold Your Horses, Experts Say,” *The Paulick Report*, February 12, 2018.

<sup>64</sup> Dan Liebman, “Inexact Science,” *Blood-Horse*, January 26, 2010.

<sup>65</sup> Piore and Williams, “Can Science Breed the Next Secretariat?”

For breeders struggling to rein an irrational market, genetics provided a degree of security. Molecular breeding was like a lighthouse warning breeders of the hazards lurking unseen in their horse's cells. Steven Tammariello, the founder of genetic breeding consulting company called ThoroughGen, traced the arc of molecular breeding: people wanted to "come up with a genetically superior horse" before becoming "interested more in what you want to avoid."<sup>66</sup> Anybody who has been around horse racing long enough could rattle off lists of splendid breeding failures. The Green Monkey, the \$16 million failure we began, with is just one example.<sup>67</sup>

Although the Bluegrass Bubble burst for Alydar and Calumet Farm in the 1990s, the high prices and boom-time business practices persisted. Once a method for making money in the Bluegrass was discovered, the breeding industry changed. A strong market in yearlings encouraged high volume breeding. For a long time, breeders considered one hundred mares the theoretical maximum that a stallion could serve in one season. Profit was persuasion enough for breeders to revise that figure upward. Just as the forty-share horse of the 1950s became the sixty-share horse of the 1960s, the new millennium saw the rise of the hundred-share stallion. One hundred twenty-six stallions exceeded 100 mares in 2005. The next year, a stallion at Coolmore's Kentucky stud farm covered 233 mares in one Northern Hemisphere breeding season setting a North American record. (Coolmore shuttles especially in-demand stallions to Australia on jumbo jets to serve mares in the southern spring.)<sup>68</sup> Of the July 2008

---

<sup>66</sup> Ron Mitchell, "Genetic Research New Tool in Breeding," *Blood-Horse*, October 13, 2010.

<sup>67</sup> David Derbyshire, "How Genetics Can Create the Next Superstar Racehorse," *Guardian*, June 22, 2014.

<sup>68</sup> Cassidy, *Horse People*, 92.

yearling sale, Jim Squires remembers, “For years, glowing sale reports and inflated but meaningless sale averages had masked the illness growing in the industry’s underbelly: massive overproduction.” Prices nevertheless remained high. In 1986, 2,264 yearlings sold at Keeneland for \$177.5 million. Those numbers in 2007 were 3,558 for \$399.7 million.<sup>69</sup>

The lessons of the Bluegrass Bubble escaped investors in the 2000s. In 2008, before another market contraction, investment banker Michael Iavarone offered shares in a \$100 million hedge fund called International Equine Acquisitions Holdings (IEAH). The firm charged a two per cent management fee and skimmed twenty per cent of the profits. A thirty-seven-year-old with slicked back hair, Iavarone made millions during his eleven years on Wall Street—racing journalist Andrew Beyer noted in 2008 that “the details of his career are invariably sketchy”—and built an impressive client list, most of whom, according to Iavarone, had “never been in horse racing before.”<sup>70</sup> Thoroughbred prices flew high until the 2008 subprime mortgage crisis. Jason Singh, marketing manager for Tattersalls, the British auction house, proclaimed that the 2008 dip in bloodstock prices did not compare with the Bluegrass Bubble. “The main problem,” he said, “was that the [latest] crash coincided with production being at its absolute peak.”<sup>71</sup>

Even the desirable genes in a racehorse—those that produce the phenotype of excelling at races up to a mile and a half—had unforeseen and deleterious effects. Few of the celebrated horses of the eighteenth and nineteenth centuries had two copies of the speed gene

---

<sup>69</sup> Squires, *Headless Horsemen*, 11, 73-74.

<sup>70</sup> Andrew Beyer, “Getting a Handle On a New Horse Power,” *Washington Post*, May 15, 2008.

<sup>71</sup> Elizabeth Robinson, “Breeding the Best is a High-Stakes Game,” *Horseracing: Financial Times Special Report*, Jun 4, 2011.

allele. Horses ran longer races back then, four-mile races run in heats until one horse won two races. The tests rewarded stamina over speed. As modern racing moved to shorter distances, the speed gene appeared more frequently in thoroughbreds. No sire had more influence on contemporary thoroughbred genetics than Northern Dancer (1961 – 1990). The Kentucky Derby and Preakness Stakes winner acted like a firehose filling the thoroughbred gene pool with speed gene alleles.<sup>72</sup> Northern Dancer's foals matured quickly and showed the same speed as their father, but they also carried his genes for fragility.<sup>73</sup> Selective breeding forced 1,200-pound thoroughbreds to support themselves on “champagne glass ankles.”<sup>74</sup>

---

<sup>72</sup> Glenye Cain Oakford, “Modern Speed Traced to British Mare from 300 Years Ago,” *Daily Racing Form*, January 24, 2012.

<sup>73</sup> William Nack, “Eight Belles’ Breakdown: A Predictable Tragedy,” ESPN, May 16, 2008, accessed January 17, 2019, [www.espn.com/horse-racing/triplecrown08/columns/story?columnist=nack\\_bill&id=3399004](http://www.espn.com/horse-racing/triplecrown08/columns/story?columnist=nack_bill&id=3399004).

<sup>74</sup> Sally Jenkins, “Is Horse Racing Breeding Itself to Death?” *The Washington Post*, May 4, 2008.

**Epilogue: Re-Arabizing the Thoroughbred  
Lexington, KY 6 June 2015**

My thoroughbred story ends where it begins, back in Kentucky in 2015.

Leading up to the Belmont Stakes, American Pharoah was the odds-on favorite. (The misspelling is both accidental and permanent; “Since the name met all of the criteria for naming and was available,” the Jockey Club’s president and COO Jim Gagliano told reporters, “it was granted exactly as it was spelled on the digital name application.”)<sup>1</sup> Thousands of fans bought \$2 win tickets on the Triple Crown hopeful. People placed these bets more as souvenirs than investments—American Pharoah’s odds at post time were 3:4, meaning the winning \$2 ticket returned \$3.50.

When the starting gates swung open, American Pharoah led the field of eight horses wire to wire becoming the first horse since Affirmed in 1978 to win all three races of the American Triple Crown.

I watched the race at a bar in downtown Lexington.

For two minutes twenty-six seconds, time stood still. Servers stopped delivering food, bartenders stopped pouring. When the field rounded the second turn and American Pharoah started to pull away, the stillness that descended on the bar gave way to a din.

Lexington is a horse town, and horses have made the city cosmopolitan. Around the corner from where I sat was a place called Shakespeare and Co. The restaurant has locations throughout the Middle East but is named after a bookstore in Paris. On a day when a horse owned by an industrialist born in Cairo completed the Triple Crown, the restaurant seemed like a good metaphor for the re-Arabization of the thoroughbred industry.

---

<sup>1</sup> Jonathan Lintner, “Behind the Spelling American Pharoah,” *Louisville Courier-Journal*, April 21, 2015.

American Pharoah's name combines elements of his sire's, Pioneer of the Nile—misspellings run in the family—and his dam's sire's, Yankee Gentleman; it also pays homage to owner Ahmed Zayat's Egyptian heritage. Zayat was born in Cairo in 1962. For a generation Pan-Arab nationalism defined Egyptian politics under Gamal Abdel Nasser and Anwar Sadat. Nine years after Zayat's birth, a newly passed constitution replaced the United Arab Republic—a nation that included Syria and Egypt under one government—with the Arab Republic of Egypt. All this, when as the *Egypt Independent* reported, “After over 10 years of analyzing DNA samples from hundreds of people, the National Geographic Genographic Project (NGGP) surprisingly uncovered the fact that Egyptians are not Arabs as most of them believed.”<sup>2</sup> People don't tell stories just about their horses.

Also running in the Belmont Stakes was a horse named Mubtaahij, which means something close to “joyful” in Arabic. Mubtaahij was listed as an Irish horse, but his owner is Sheikh Mohammed bin Rashid Al Maktoum, vice president and prime minister of the United Arab Emirates and Emir of Dubai. Beginning in the 1990s, Sheikh Mohammed bought more horses at the Keeneland, Kentucky, September yearling sales than any other owner. Sheikh Mohammed had been a fixture at the sale for more than 25 years, arriving at Bluegrass Airport every summer in a private jumbo jet. Between 1998 and 2006, Sheikh Mohammed spent nearly a quarter of a billion dollars on Kentucky bloodstock. Since 1995, the Sheikh's family has also ruled the owners' standings in England through their string of horses running under the banner of Godolphin stables. Sheikh Mohammed formed Godolphin in 1992 with his brothers Sheikh Hamdan and the late Sheikh Maktoum. Godolphin Stables takes

---

<sup>2</sup> Henda El-Behary, “DNA Analysis Proves That Egyptians Are Not Arabs,” *Egypt Independent*, January 17, 2017.

advantage of Dubai's mild winters. The sheikhs' horses train at a state-of-the-art facility before returning to Europe or Asia for the racing season.<sup>3</sup>

Godolphin Stables takes its name from the third of the foundation sires. According to lore, the Bey of Tunis sent an Arabian to France as a gift for Louis XV. Prevailing taste in horses on the Continent relegated this gift to use as a cart horse in the King's kitchen, but he was "so vicious, so bumptious" and he "ate more than he was worth" that the kitchen staff found him useless and incorrigible and sold him away. So it came that one of the fountainheads of the thoroughbred breed assumed the ignoble role of a common draft horse pulling a cart on the streets of Paris. Eugène Sue's novella *The Godolphin Arabian* (1846) recounts how "one of the most promising descendants of one of the most ancient races of Barbary" went from cart horse to foundation sire. An English Quaker in Paris on business encountered the Godolphin Arabian on a wet and slick Paris street. Unable to get his footing and straining under the weight of an overloaded cart, the Godolphin toppled the cart of wares he was pulling. His irate owner beat him so mercilessly that the violence attracted a crowd. The English Quaker moved by pity offered a large sum to purchase the horse and free it from its miserable condition. The Quaker returned to England with the horse and gifted it to his son-in-law who raised horses. Since the Godolphin Arabian had a slight body that was not fashionable at the time in England, his new owner used him as a teaser horse to prepare mares for mating with his favorite stallion, Hobgoblin. As the story goes, the Godolphin Arabian won the affection of Roxana, a mare who refused to mate with Hobgoblin. The pair

---

<sup>3</sup> Joe Drape, "A Sheik's Thoroughbred Kingdom in Kentucky," *New York Times*, October 30, 2006.

was mated, and when the resulting offspring came of age, it was famous for its fleetness and stamina.<sup>4</sup>

Clearly Sheikh Mohammed and his Dubai-based entourage are self-consciously reclaiming the thoroughbred. In 2001, he bought Jonabell Farm in Versailles. After Maktoum's death, Sheikh Mohammed incorporated the 4,000-acre Gainsborough farm into his American empire, which takes its name from another of the foundation sires: the Darley Arabian. Darley America, as the sheikh's American venture is known, employs nearly 200 Kentuckians to keep up racing operations in the state.<sup>5</sup>

In his 2002 book about thoroughbred breeding, journalist Kevin Conley characterizes the annual Keeneland yearling sales as a bidding war between the "boys" and the sheikhs. The boys represent Coolmore Stud, where this story began and, incidentally, where American Pharoah now stands outside Lexington. The boys, including Irish breeder John Magnier, retired bookie Michael Tabor and Demi O'Byrne, "like to think of themselves as continuing a great Irish tradition, what Magnier calls, 'the instinctive understanding the Irish have of the horses.'"<sup>6</sup> The Irish boys and Sheikh Mohammed's entourage see themselves as either continuing a tradition of horse sense or restoring one. This raises an awful lot of questions. Is the thoroughbred really an English animal? Are the Irish and Emirati thoroughbred owners mirroring and surpassing their British colonizers?

---

<sup>4</sup> Sue, *The Godolphin Arabian*. The quotations appear on pp. 18 and 26.

<sup>5</sup> Drape, "A Sheik's Kingdom."

<sup>6</sup> Conley, *Stud*, 12.

The stories people tell about their animals matter. In Sue's tale, the Godolphin Arabian had a pedigree affirming his status as an excellent horse, it just got lost in translation. We can imagine that if Louis XV's court knew about the Godolphin's past and potential, he wouldn't have been relegated to the kitchen. The Bey of Tunis dispatched a mute groom to accompany his gift to Europe. As a metaphor the silent stable boy was a little on the nose.

Thoroughbreds need their stories narrated. In the absence of a popular racing culture, a bureaucracy to govern bloodlines and a robust sporting press to disseminate information about racers, nothing distinguished thoroughbreds from mundane working horses. Once narrated and known, the Godolphin Arabian's life changed, like a figure in myth who learned he was born to be king all along.

It wasn't just horses affected by the stories people told about them. I've tried to show how horse stories wended their way into popular understanding. The history of the thoroughbred horse is entangled with the history of empire-building and economic hegemony. A flip side of empire-building is the formation of a shared national identity and a robust public sphere. Over the course of this story, landscapes became not only rationalized and knowable, but also privatized. Thoroughbreds also underwent the process of standardization. With the publication of regional stud books and the consolidation of authority in professional societies, thoroughbred horses became mobile, standardized entities. Thoroughbreds flowed from one region to another and often one country to another with the assurance that the horses were in fact thoroughbreds. Meanwhile the organizations that determined the standards enforced them at tracks around the world by agreeing to adjudicate races only if tracks adopted their standards. This mobility, contributed to placelessness. Once the breed standardized, one could raise a thoroughbred anywhere. Breeding interactions no

longer relied on face-to-face encounters. What's more, with the help of chemical fertilizers and large-scale irrigation projects, breeders could raise horses in relatively waterless San Diego County. The copious data that a standardized breed and a professionalized sport created proved useful for another hallmark of modernity: the production of universal knowledge. While I argued, that the knowledge created using thoroughbred data reflected preconceived ideology more than scientific fact, the episode suggests an empirical attitude of positivist optimism. In the twenty-first century, thoroughbred owners and breeders tried to make markets and biology knowable. Markets still inflated unstable bubbles and horses bred at exorbitant cost in the genomic age still failed at the track.

The fascination with *Turquerie* in Britain coincided with a moment of imperial envy. The world was becoming a small enough place where British factors in the Levant could import dozens of Arabian horses to Great Britain. Breeding emerged, especially in North Yorkshire, on such a scale that the British began identifying the animals not as exotic imports, but as peculiarly English horses. Linda Colley places the emergence of Britishness as an identity—as opposed to seeing oneself as English, Welsh, or Scottish—to this historical moment.<sup>7</sup> British subjects brought thoroughbreds throughout the Empire: particularly South Africa, Australia, and North America. The Virginia Cavaliers adopted horse racing with uncommon vigor.

While today, Lexington, Kentucky prides itself as the “Horse Capital of the World,” this was not always the case.<sup>8</sup> Horses did not live in the Americas until the European

---

<sup>7</sup> Colley, *Britons*.

<sup>8</sup> “VisitLex,” Visitlex, 2007, accessed May 4, 2017, <http://www.visitlex.com/>.

invasions of the fifteenth and sixteenth centuries.<sup>9</sup> The Kentucky of double fences and green pastures is an environment built for horses. Nineteenth-century landowners and oftentimes their slaves modeled the Bluegrass Region on the peculiar dietary needs of the horses that resulted in privately held pastures. To protect their investments, they formed local jockey clubs, like the Lexington Association for the Improvement of the Thoroughbred, to enforce rules. The torturous path to the creation of the American *Stud Book*, shows not only how artificial the breed concept was, but also how the process of standardization increased investment and made thoroughbreds mobile.

Unsurprisingly by the second half of the nineteenth century, thoroughbreds followed capital to the west coast, making homes in California. Gertrude Stein famously wrote of Oakland, “There is no there there.”<sup>10</sup> Capitalism works better on smooth surfaces, and so it tries to eliminate regional difference. In California, robber barons adopted thoroughbred racing and endeavored to make the place fit the hobby. They conditioned the soil with fertilizer and lime and pumped water from the High Sierra to the thirsty lands near the coast. In doing so, they brought the world of the Bluegrass, including uneven power relations, west. In the twentieth century, thoroughbred breeders turned to science to help them breed better horses, but they also used the power of science to legitimate the status quo. Their wealth and power, they argued, was their birthright, encoded in their genes, the same way they imagined their horses as the genetic aristocracy of the equine world. The professionalization of the sport and the standardization of the sport allowed eugenicists like Harry H. Laughlin to

---

<sup>9</sup> Crosby, *Columbian Exchange*, xxiv.

<sup>10</sup> Gertrude Stein, *Everybody's Autobiography* (New York: Random House, 1937), 289.

concoct byzantine formulas allowing racist thinkers to put their trust in numbers or Michael Iavarone to turn thoroughbreds into tranches and financial instruments.

At their root, though, these are all stories about belonging: the English traders in the Levant, the Arabian horses in Great Britain, the thoroughbreds on Kentucky's limestone soils, the American bourgeoisie on the world stage.

It's apt that my story has come full circle, back to Lexington. My path looped back on itself; this is something of a similar arc for the thoroughbred breed. The world's richest race, the Dubai World Cup carries a purse of \$10 million and attracts the fastest thoroughbreds on earth. This is something of a homecoming for the racers. British factors in the eighteenth century carried these horses' ancestors away and populated the world the thoroughbred breed. Now the Emirates, overflowing with money from oil and attempts to diversify the economy in finance, are calling their horses home.

## Bibliography

### Manuscript Collections

American Philosophical Society

Charles B. Davenport Papers B D 27

British Library

Nathaniel Harley's letters, 1682-1720, Additional Manuscripts 70143

Heath and Verney Papers, Egerton MS 2988

Prince George of Denmark: letters, accounts and papers relating to the household and estate of Prince George of Denmark, consort of Queen Anne, Egerton MS 3809

California Institute of Technology

Alfred H. Sturtevant Papers

Columbia University Library Special Collections

Belmont Family Collection, 1799-1930, MS# 1412

Charles E. Young Research Library, University of California, Santa Barbara

Charles E. Cooper Papers (Collection 330).

Filson Historical Society

Bullitt Family Papers – Oxmoor Collection, 1683-2003, Mss. A B937c130

Taylor-Hay Family Papers, 1783-1991 Mss. AT238d

International Museum of the Horse

Calumet Farm Collection

Kentucky Historical Society

Alexander Family Papers, Woodburn Farm Series, Mss 93.

National Sporting Library

Monmouth Park Brochures, 1949-1954

Alexander Mackay-Smith Papers

Special Collections, University of Virginia

Harry W. Smith, Sporting reminiscences, 1939 Accession #12652  
Agua Caliente Scrapbooks MSS 14243

Truman State University

Harry H. Laughlin Papers, Manuscript Collection L1

University of Kentucky Special Collections

Kentucky Association for the Improvement of Breeds of Stock Records 58M17  
Mary E. Wharton Papers, 1997Ms138  
Papers of Josephine Clay, 2005M01

### **Periodicals**

*American Farmer*

*American Turf Register*

*Atlantic*

*Blackwood's Edinburgh Magazine*

*Blood-Horse*

*Chicago Tribune*

*Connoisseur*

*Daily Picayune* (New Orleans)

*Daily Racing Form*

*Discover*

*DVM Newsmagazine*

*Egypt Independent*

*Financial Times*

*Guardian*

*Herald Tribune* (New York)

*Horse*

*Los Angeles Times*

*Louisville Courier-Journal*

*Nautilus*

*New Republic*

*New York Herald*

*New York Times*

*Niles' Weekly Register*

*Paulick Report*

*Science*

*Science Daily*

*Scientific American*

*Thoroughbred of California*

*Thoroughbred Record*

*Turf, Field, and Farm*

*Wall Street Journal*

*Washington Post*

### **Published Primary Sources**

d'Arvieux, Laurent, *The Travels of the Chevalier d'Arvieux in Arabia the Desart*. Translated by unknown. London: B. Baker, 1732.

Bernard, John. *Retrospections of America, 1797-1811*. Edited by Bayle Bernard. New York: Harper & Brothers, 1887.

Bibb, Henry. *Narrative of the Life and Adventures of Henry Bibb an American Slave, Written by Himself*. 1849. Reprint, n.p, The Floating Press, 2014.

Blane, William Newnham. *An Excursion through the United States and Canada, during the Years 1822-1823*. London: Baldwin, Cradock, and Joy, 1824.

Bruce, S.D. *The American Stud Book: Containing Full Pedigrees of All the Imported Thorough-bred Stallions and Mares, with Their Produce, Including the Arabs, Barbs, and Spanish Horse, from the Earliest Accounts of Racing in America, to the end of the Year 1872; Also All the Native Mares and Their Produce*. New York: Sanders D. Bruce, 1884.

Bruce, S.D. *The Thoroughbred Horse: His Origin, How to Breed and How to Select Him*. New York: Turf, Field, and Farm, 1892.

Buffon, G.L. *The Natural History of the Horse, Translated from the French of the Celebrated M. de Buffon*. London: R. Griffiths, 1762.

Cavendish, William. *A New Method, and Extraordinary Invention, to Dress Horses, and Work Them According to Nature*. London: Tho. Millbourn, 1667.

Colton, Calvin, editor. *The Works of Henry Clay Comprising His Life, Correspondence and Speeches*, volume 5. New York: G.P. Putnam's Sons, 1904.

Davis, Helen M. "Science Follows the Ponies to Discover Future of Human Race," *Science News-Letter* 16, no. 453 (1929): 364-365+374.

Defoe, Daniel. *Tour through the Eastern Counties of England, 1722*. London: Cassell & Company, Ltd., 1891.

Defoe, Daniel. *A Tour Through the Whole Island of Great Britain*. Edited by P.N. Furbank and W.R. Owens. New Haven: Yale University Press, 1991.

Edgar, Patrick Nisbett. *American Race-Turf Register, Sportsman's Herald, and General Stud Book*. New York: Press of Henry Mason, 1833.

Education/Evaluation Commission and Judges & Stewards Commissioner. *Arabian Conformation*. Aurora, CO: Arabian Horse Association, 2016.

Evelyn, John. *Diary of John Evelyn*. Edited by William Bray. London: Bickers and Son, 1906.

Farre, Frederic John. *Manual of Materia Medica & Therapeutics*. Philadelphia: Henry C. Lea, 1866.

Federal Writer's Project, 1936-1938. *Slave Narratives: A Folk History of Slavery in the United States from Interviews with Former Slaves*, volume vii, Kentucky Narratives. Washington: Library of Congress, 1941.

Fithian, Philip Vickers. *Philip Vickers Fithian: Journal and Letters, 1767-1774*. Edited by John Rogers Williams. Princeton: Princeton University Press, 1900.

Foster, William, editor. *The Travels of John Sanderson in the Levant, 1584-1602*. London: The Hakluyt Society, 1931.

Galton, Francis. *Hereditary Genius: An Inquiry into Its Laws and Consequences*. London: Macmillan and Co., 1869.

*General Stud Book, Containing Pedigrees of Race Horses, &c. &c. From the Earliest Accounts to the Year 1826, Inclusive*, vol. 1. Brussels: Meline, Cans and Co., 1839.

Grant, Madison. *The Passing of the Great Race: Or the Racial Basis of European History*, 4<sup>th</sup> edition. New York: Charles Scriber's Sons, 1922.

Green, J.D. *Narrative of the Life of J.D. Green, A Runaway Slave, From Kentucky, Containng an Account of His Three Escapes, in 1839, 1846, and 1848*. Huddersfield, UK: Henry Fielding, 1864.

International Federation of Horseracing Authorities. *Annual Report, 2015*.

Johnston, J. Stoddard, editor. *First Explorations of Kentucky: Doctor Thomas Walker's Journal*. Louisville: John P. Morton and Company, 1898.

Lang, Andrew, editor. *Arabian Nights*. (London: Longmans, Green and Co., 1918.

Magalott, Conte Lorenzo. *Travels of Cosmo the Third, Grand Duke of Tuscany, through England during the Reign of King Charles the Second (1669)*. London: J. Mawman, 1821.

Markham, Gervase. *Markham's Master-Piece*. London: N. and M. Boddington, 1717.

Mayer, William. *Johnson's English Dictionary*, vol. II. Glasgow: R. Chapman, 1809.

Morgan, Nicholas. *The Perfection of Horsemanship*. London: Edward White, 1609.

O'Connor, John L., editor. *Notes on the Thoroughbred from Kentucky Newspapers*. Lexington, KY: Transylvania Printing Company, no date.

Pacific Coast Jockey Club. *Inaugural Meeting, Tanforan Racecourse, San Bruno, California*. San Francisco: Pacific Coast Jockey Club, 1924.

Piggott, Charles. *The Jockey Club: Or a Sketch of the Manners of the Age*. New York: Thomas Greenleaf, 1793.

Ridgeway, William. *The Origni and Influence of the Thoroughbred Horse*. Cambridge, UK: Cambridge University Press, 1905.

Riis, Jacob A. *How the Other Half Lives: Studies Among the Tenements of New York*. New York: Charles Scribner's Sons, 1890.

Stein, Gertrude. *Everybody's Autobiography*. New York: Random House, 1937.

Sue, Eugène. *The Godolphin Arabian: Or, the History of a Thorough-Bred*. London: Chapman and Elcoate, 1845.

Tesio, Federico. *Breeding the Racehorse*, edited and translated by Edward Spinola. London: J.A. Allen, 1958.

*The Sportsman's Dictionary: Or, the Country Gentleman's Companion, in all Rural Recreations*. London: C. Hitch, 1735.

Stokes, W.E.D. *The Right to Be Well Born: Or Horse Breeding in its Relation to Eugenics*. New York: C.J. O'Brien, 1917.

Stowe, Harriet Beecher. *Uncle Tom's Cabin: A Tale of Life Among the Lowly*. London: George Routledge & Co. 1852.

Uffenbach, Zacharias Konrad von. *London in 1710*. Edited and translated by W.H. Quarrell and Margaret Mare. London: Faber and Faber, 1934.

Wharton, Edith. *The Age of Innocence*. 1920; reprint, New York: Barnes & Noble Classics, 2004.

## **Secondary Literature**

Abbey, Edward. *Desert Solitaire: A Season in the Wilderness*. New York: Ballantine Books, 1971.

Alagona, Peter. "Species Complex: Classification and Conservation in American Environmental History." *Isis* 107, no. 4 (December 2016): 738-761.

Alder, Ken. *The Measure of All Things: The Seven-Year Odyssey and Hidden Error That Transformed the World*. New York: The Free Press, 2003.

Allen, Garland E. "The Eugenics Record Office at Cold Spring Harbor, 1910-1940: An Essay in Institutional History." *Osiris* 2, vol. 2 (1986): 225-264.

Allen, Garland E. "The Introduction of *Drosophila* into the Study of Heredity and Evolution: 1900-1910." *Isis* 66, no. 3 (1975): 322-333.

Anderson, Virginia DeJohn. *Creatures of Empire: How Domestic Animals Transformed Early America*. New York: Oxford University Press, 2006.

Anderson, Warwick. "The Possession of the Kuru: Medical Science and Biocolonial Exchange." *Comparative Studies in Society and History* 42, no. 4 (October 2000): 713-744.

Andrews, Thomas. *Killing for Coal: America's Deadliest Labor War*. Cambridge, MA: Harvard University Press, 2008.

Anon. *Horse-Racing: Its History and Early Records of the Principal and Other Race Meetings with Anecdotes, etc.* London: Saunders, Otley, and Co., 1862.

Archer, Rosemary. *The Arabian Horse*. London: J.A. Allen, 1992.

Aron, Stephen. *How the West Was Lost: The Transformation of Kentucky from Daniel Boone to Henry Clay*. Baltimore: Johns Hopkins University Press, 1999.

Auerbach, Ann Hagedon. *Wild Ride: The Rise and Tragic Fall of Calumet Farm, Inc., America's Premier Racing Dynasty*. New York: Henry Holt and Company, 1994.

Bankoff, Greg and Sandra Swart, editors. *Breeds of Empire: The "Invention" of the Horse in Southeast Asia and Southern Africa, 1500-1950*. Copenhagen: NIAS Press, 2007.

Beckert, Sven. *Empire of Cotton: A Global History*. New York: Alfred A. Knopf, 2014.

Beckert, Sven. *The Monied Metropolis: New York City and the Consolidation of the American Bourgeoisie, 1850-1896*. New York: Cambridge University Press, 2003.

Bernasconi, Robert and Tommy L. Lott. *The Idea of Race*. Indianapolis: Hackett Publishing, 2000.

Betts, John Rickards. "Sporting Journalism in Nineteenth-Century America." *American Quarterly* 5, no. 1 (Spring 1953): 39-56.

Boller, Beat, Ulrich K. Posselt, and Fabio Veronesi, editors. *Fodder Crops and Amenity Grasses*. New York: Springer, 2010.

Bott, Rebecca C., Elizabeth A. Greene, Katherine Koch, Krishona L. Martinson, Paul D. Siciliano, Carey Williams, Nathalie L. Trottier, Amy Burk, Ann Swinker. "Production and Environmental Implications of Equine Grazing." *Journal of Equine Veterinary Science* 33, no/ 12 (December 2013): 1031-1043.

Boucaut, James Penn. *The Arab Horse, the Thoroughbred, and the Turf*. London: Arthur F. Bird, 1912.

Bower, M.A., M.G. Campana, M. Whitten, C.J. Edwards, H. Jones, E. Barrett, R. Cassidy, R.E.R. Nisbet, E.W. Hill, C.J. Howe, and M. Binns. "The Cosmopolitan Maternal Heritage of the Thoroughbred Racehorse Breed Shows a Significant Contribution from British and Irish Native Mares." *Biology Letters* 7, no. 2 (April 23, 2011): 316-320.

- Bowker, Geoffrey C. and Susan Leigh Star. *Sorting Things Out: Classification and Its Consequences*. Cambridge, MA: MIT Press, 1999.
- Bowler, Peter J. *Evolution: The History of an Idea*. Berkeley, CA: University of California Press, 1989.
- Bowler, Peter J. *The Earth Encompassed: A History of the Environmental Sciences*. New York: W.W. Norton & Company, 2000.
- Bowler, Peter J. *The Mendelian Revolution: The Emergence of Hereditarian Concepts in Modern Science and Society*. London: Athlone Press, 1989.
- Bowmar, Dan M. III. *Giants of the Turf: The Alexanders, the Belmonts, James R. Keene, the Whitneys*. Lexington, KY: The Blood-Horse, 1960.
- Brailsford, Dennis. *A Taste for Diversions: Sport in Georgian England*. Cambridge, UK: The Lutterworth Press, 1999.
- Brechen, Gray. *Imperial San Francisco: Urban Power, Earthly Ruin*. Berkeley: University of California Press, 2006.
- Breen, T.H. "Horses and Gentlemen: The Cultural Significance of Gambling among the Gentry of Virginia." *William and Mary Quarterly* 34, no. 2 (April 1977): 239-257.
- Briggs, Laura. *Reproducing Empire: Race, Sex, Science, and U.S. Imperialism in Puerto Rico*. Berkeley: University of California Press, 2002.
- Budiansky, Stephen. *The Nature of Horses: Exploring Equine Evolution, Intelligence, and Behavior*. New York: Free Press, 1997.
- Callon, Michel. "Some Elements of a Sociology of Translation: Domestication of the Scallops and the Fishermen of St. Briec Bay." In *Power, Action and Belief: A New Sociology of Knowledge* edited by John Law. London: Routledge & Kegan Paul, 1986.
- Carlson, Robert H. *Biology Is Technology: The Promise, Peril, and New Business of Engineering Life*. Cambridge, MA: Harvard University Press, 2010.
- Carson, Jane. *Colonial Virginias at Play*. Williamsburg, VA: Colonial Williamsburg Foundation, 1989.
- Case, Carole. *Down the Backstretch: Racing and the American Dream*. Philadelphia: Temple University Press, 1991.
- Case, Carole. *The Right Blood: America's Aristocrats in Thoroughbred Racing*. New Brunswick, NJ: Rutgers University Press, 2001.

Cassidy, Rebecca, editor. *The Cambridge Companion to Horseracing*. Cambridge, UK: Cambridge University Press, 2013.

Cassidy, Rebecca. *Horse People: Thoroughbred Culture in Lexington and Newmarket*. Baltimore: Johns Hopkins University Press, 2007.

Cassidy, Rebecca. *The Sport of Kings: Kinship, Class, and Thoroughbred Breeding in Newmarket*. Cambridge, UK: Cambridge University Press, 2002.

Cassidy, Rebecca. "Turf Wars: Arab Dimensions to British Racehorse Breeding." *Anthropology Today* 19, no. 3 (June 2003): 13-18.

Cohen, Patricia Cline, Timothy Gilfoyle, and Helen Lefkowitz Horowitz. *The Flash Press: Sporting Male Weeklies in 1840s New York*. Chicago: University of Chicago Press, 2008.

Colley, Linda. *Britons: Forging the Nation, 1707-1837*. New Haven: Yale University Press, 1992.

Conley, Kevin. *Stud: Adventures in Breeding*. New York: Bloomsbury Publishing, 2008.

Conn, George H., ed. *The Arabian Horse in Fact, Fantasy and Fiction*. New York: A.S. Barnes and Company, Inc., 1959.

Cronon, William. *Changes in the Land: Indians, Colonists, and the Ecology of New England*. New York: Hill and Wang, 1983.

Cronon, William. *Nature's Metropolis: Chicago and the Great West*. New York: W.W. Norton & Company, 1991.

Cronon, William. "A Place for Stories: Nature, History, and Narrative." *Journal of American History* 78, no. 4 (March 1992): 1347-1376.

Crosby, Alfred W. *The Columbian Exchange: Biological and Cultural Consequences of 1492*. Westport, CT: Greenwood Publishing Group, 1973.

Culver, Lawrence. *The Frontier of Leisure: Southern California and the Shaping of Modern America*. New York: Oxford University Press, 2010.

Dasmann, Raymond F. *The Destruction of California*. New York: Macmillan, 1965.

Daston, Lorraine, editor. *Biographies of Scientific Objects*. Chicago: University of Chicago Press, 2000.

Daston, Lorraine and Gregg Mitman, eds. *Thinking with Animals: New Perspectives on Anthropomorphism*. New York: Columbia University Press, 2005.

Davidson, Jenny. *Breeding: A Partial History of the Eighteenth Century*. New York: Columbia University Press, 2008.

Davis, Ralph. *Aleppo and Devonshire Square: English Traders in the Levant in the Eighteenth Century*. London: Macmillan, 1967.

Dawkins, Richard. *The Extended Phenotype: The Long Reach of the Gene*. New York: Oxford University Press, 1999.

DeKeyser, Edward S., Lauren A. Dennhardt, and John Hendrickson. "Kentucky Bluegrass (*Poa pratensis*) Invasion in the Northern Great Plains: A Story of Rapid Dominance in an Endangered Ecosystem." *Invasive Plant Science and Management* 8, no. 3 (2015): 255-261.

Derry, Margaret. *Bred for Perfection: Shorthorn Cattle, Collies, and Arabian Horses since 1800*. Baltimore: Johns Hopkins University Press, 2003.

Derry, Margaret. *Horses in Society: A Story of Animal Breeding and Marketing Culture, 1800-1920*. Toronto: University of Toronto Press, 2015.

Derry, Margaret. *Masterminding Nature: The Breeding of Animals, 1750-2010*. Toronto: University of Toronto Press, 2015.

Donahue, Brian. *The Great Meadow: Farmers and the Land in Colonial Concord*. New Haven: Yale University Press, 2003.

DuBois, W.E.B. *Black Reconstruction in America: An Essay toward a History of the Part which Black Folk Played in the Attempt to Reconstruct Democracy in America, 1860-1880*. New York: Oxford University Press, 2007).

Duncan, Patrick. *Horses and Grasses: The Nutritional Ecology of Equids and Their Impact on the Camargue*. New York: Springer-Verlag, 1992.

Eze, Emmanuel Chukwudi, editor. *Race and the Enlightenment: A Reader*. Malden, MA: Blackwell, 1997.

Farber, Paul Lawrence. *Finding Order in Nature: The Naturalist Tradition from Linnaeus to E.O. Wilson*. Baltimore: Johns Hopkins University Press, 2000.

Federal Writers' Project of the Works Projects Administration for the State of Kentucky. *Kentucky: A Guide to the Bluegrass State*. New York: Harcourt, Brace and Company, 1939.

Fiege, Mark. *Irrigated Eden: The Making of an Agricultural Landscape in the American West*. Seattle: University of Washington Press, 1999.

Fiege, Mark. "The Weedy West: Mobile Nature, Boundaries, and Common Space in the Montana Landscape." *Western Historical Quarterly* 36, no. 1 (February 2005): 22-47.

Finkel, Elizabeth. *The Genome Generation*. Melbourne: Melbourne University Press, 2012.

Foner, Eric. *Reconstruction: America's Unfinished Revolution, 1863-1877*. New York: Harper & Row, 1988.

Fredrickson, George M. *The Black Image in the White Mind: The Debate on Afro-American Character and Destiny, 1817-1914*. Middletown, CT: Wesleyan University Press, 1971.

Genovese, Eugene. *Roll, Jordan, Roll: The World the Slaves Made*. New York: Vintage Books, 1972.

Gibbons, Ann. "Racing for Disaster? Breeding Thoroughbreds for Speed May Harm Their Health." *Science* 13 (June 2014): 1213-1214.

Gitelman, Lisa, editor. *Raw Data Is an Oxymoron*. Cambridge, MA: MIT Press, 2013.

Gould, Stephen Jay. *The Mismeasure of Man*. New York: W.W. Norton & Company, 1981.

Greene, Ann Norton. *Horses at Work: Harnessing Power in Industrial America*. Cambridge, MA: Harvard University Press, 2008.

Hall, Catherine, editor. *Cultures of Empire: Colonizers in Britain and the Empire in the Nineteenth and Twentieth Centuries: A Reader*. Manchester: Manchester University Press, 2000.

Hämäläinen, Pekka. "The Politics of Grass: European Expansion, Ecological Change, and Indigenous Power in the Southwest Borderlands." *The William and Mary Quarterly* 67, no. 2 (April 2010): 173-208.

Hammonds, Evelyn M. and Rebecca M. Herzig, editors. *The Nature of Difference: Sciences of Race in the US from Jefferson to Genomics*. Cambridge, MA: MIT Press, 2008.

Haraway, Donna. *Primate Visions: Gender, Race, and Nature in the World of Modern Science*. New York: Routledge, 1990.

Haraway, Donna. *When Species Meet*. Minneapolis: University of Minnesota Press, 2007.

Haraway, Donna. *The Companion Species Manifesto: Dogs, People, and Significant Otherness*. Chicago: Prickly Paradigm Press, 2003.

Harrison, Fairfax. *The Background of the American Stud Book*. Richmond, VA: Old Dominion Press, 1933.

- Harrison, Fairfax. *The Belair Stud, 1747-1761*. Richmond, VA: Old Dominion Press, 1929.
- Harrison, Fairfax. *Early American Turf-Stock, 1730-1830*. Richmond, VA: Old Dominion Press, 1934.
- Harrison, Fairfax. *The Equine F.F.V.s: A Study of the Evidence for the English Horses Imported into Virginia before the Revolution*. Richmond, VA: Old Dominion Press, 1928.
- Harrison, Fairfax. *The John's Island Stud (South Carolina), 1750-1788*. Richmond, VA: Old Dominion Press, 1931.
- Hervey, John. *Racing in America, 1665-1885, vol. 1*. New York: Jockey Club, 1944.
- Hervey, John. *Racing in America, 1665-1885, vol. 2*. New York: Jockey Club, 1944.
- Hotaling, Edward. *They're Off! Horse Racing at Saratoga*. Syracuse, NY: Syracuse University Press, 1995.
- Hounshell, David. *From the American System to Mass Production, 1800-1932: The Development of Manufacturing Technology in the United States*. Baltimore: Johns Hopkins University Press, 1985.
- Howlett, Peter and Mary S. Morgan, editors. *How Well Do Facts Travel? The Dissemination of Reliable Knowledge*. New York: Cambridge University Press, 2010.
- Huggins, Michael. *Flat Racing and British Society, 1790-1914: A Social and Economic History*. Portland, OR: Frank Cass, 2000.
- Huggins, Mike. *Horse Racing and British Society in the Long Eighteenth Century*. London: Boydell and Brewer, 2018.
- Hundly, Charles Jr. *The Great Thirst: Californians and Water, a History*. Berkeley: University of California Press, 2001.
- Hunter, M.C.W. "The Royal Society and the Origins of British Archaeology: I." *Antiquity* 45, no. 178 (June 1971): 113-121.
- Immerso, Michael. *Coney Island: The People's Playground*. New Brunswick, NJ: Rutgers University Press, 2002.
- Isaac, Rhys. *The Transformation of Virginia, 1740-1790*. New York: W.W. Norton & Company, 1982.
- Jacobson, Matthew Frye. *Whiteness of a Different Color: European Immigrants and the Alchemy of Race*. Cambridge, MA: Harvard University Press, 1998.

- Johnson, Paul E. "Northern Horse: American Eclipse as a Representative New Yorker." *Journal of the Early Republic* 33, no. 4 (Winter 2013): 701-726.
- Keel, Terence. *Divine Variations: How Christian Thought Became Racial Science*. Stanford, CA: Stanford University Press, 2018.
- Kelsey, D.M. *Deeds of Daring by the American Soldier, North and South*. Chicago and New York: The Werner Company, 1897.
- Klitzman, Robert L. *Am I My Genes? Confronting Fate and Family Secrets in the Age of Genetic Testing*. New York: Oxford University Press, 2012.
- Koerner, Lisbet. *Linnaeus: Nature and Nation*. Cambridge, MA: Harvard University Press, 1999.
- Kohler, Robert. *Lords of the Fly: Drosophila Genetics and the Experimental Life*. Chicago: University of Chicago Press, 1994.
- Konrad, Monica. *Narrating the New Predictive Genetics: Ethics, Ethnography and Science*. New York: Cambridge University Press, 2005.
- Kraut, Alan M. *Silent Travelers: Germs, Genes, and the "Immigrant Menace."* Baltimore: Johns Hopkins University Press, 1995.
- de Laet, Marianne and Annemarie Mol. "The Zimbabwe Bush Pump: Mechanics of a Fluid Technology." *Social Studies of Science* 30, no. 2 (April 2000): 225-263.
- Laidlaw, Christine. *The British in the Levant: Trade and Perceptions of the Ottoman Empire in the Eighteenth Century*. London: Tauris Academic Studies, 2010.
- Leighly, John, editor. *Land and Life: A Selection from the Writings of Carl Ortwin Sauer*. Berkeley: University of California Press, 1969.
- Landry, Donna. *Noble Brutes: How Eastern Horses Transformed English Culture*. Baltimore: Johns Hopkins University Press, 2008.
- Latour, Bruno. *The Pasteurization of France*. Translated by Alan Sheridan and John Law. Cambridge, MA: Harvard University Press, 1993.
- Leach, William R. *Land of Desire: Merchants, Power, and the Rise of a New American Culture*. New York: Vintage, 1994.
- Leopold, Aldo. *A Sand County Almanac: And Sketches Here and There*. New York: Oxford University Press, 1949.
- Lush, Jay L. *The Genetics of Populations*. Ames: Iowa State University Press, 1994.

- Mackay-Smith, Alexander. *Speed and the Thoroughbred: The Complete History*. New York: Derrdale Press, 2000.
- MacLean, Gerald M. *The Rise of Oriental Travel: English Visitors to the Ottoman Empire, 1580-1720*. London: Palgrave Macmillan, 2004.
- MacLean, Gerald M. and Nabil Matar. *Britain and the Islamic World, 1558-1713*. New York: Oxford University Press, 2011.
- Magee, Sean and Sally Aird. *Ascot: The History*. London: Methuen Publishing Ltd., 2002.
- Marks, Jonathan. *Human Biodiversity: Genes, Race, and History*. New Brunswick, NJ: Transaction, 1995.
- Masters, Bruce. *The Origins of Western Economic Dominance in the Middle East: Mercantilism and the Islamic Economy in Aleppo, 1600-1750*. New York: New York University Press, 1988.
- Mayer, Jeff. "Henry Clay's Legacy to Horse Breeding and Racing." *Register of the Kentucky Historical Society* 100, no. 4 (Autumn 2002): 473-496.
- Mayer-Schönberg, Viktor and Kenneth Cukier. *Big Data: A Revolution that Will Transform How We Live, Work, and Think*. New York: Eamon Dolan / Mariner Books, 2014.
- McCann, James C. *Maize and Grace: Africa's Encounter with a New World Crop, 1500-2000*. Cambridge, MA: Harvard University Press, 2007.
- McEvoy, Arthur F. *The Fisherman's Problem: Ecology and Law in California Fisheries, 1850-1980*. Cambridge, UL Cambridge University Press, 1986.
- McGrath, Christopher. *Mr. Darley's Arabian: High Life, Low Life, Sporting Life: A History of Racing in 25 Horses*. New York: Pegasus Books, 2017.
- McPherson, James M. *Battle Cry of Freedom: The Civil War Era*. New York: Oxford University Press, 1988.
- McShane, Clay and Joel A. Tarr. *The Horse in the City: Living Machines in the Nineteenth Century*. Baltimore: Johns Hopkins University Press, 2007.
- Meining, D.W., editor. *The Interpretation of Ordinary Landscapes: Geographical Essays*. New York: Oxford University Press, 1979.
- Mitchell, Robert and Phillip Thurtle, editors. *Data Made Flesh: Embodying Information*. New York: Routledge, 2004.

- Mooney, Katherine C. *Race Horse Men: How Slavery and Freedom Were Made at the Racetrack*. Cambridge, MA: Harvard University Press, 2014.
- Morgan, Edmund S. *American Slavery, American Freedom*. New York: W.W. Norton & Company, 1975.
- Müller-Wille, Staffan and Hans-Jörg Rheinberger. *A Cultural History of Heredity*. Chicago: University of Chicago Press, 2012.
- Müller-Wille, Staffan and Hans-Jörg Rheinberger, editors. *Heredity Produced: At the Crossroads of Biology, Politics, and Culture, 1500-1870*. Cambridge, MA: MIT Press, 2007.
- Nagel, Thomas. "What Is It Like to Be a Bat?" *The Philosophical Review* 83, no. 4 (1974): 435-450.
- Nelkin, Dorothy and M. Susan Lindee. *The DNA Mystique: The Gen as a Cultural Icon*, second edition. Ann Arbor: University of Michigan Press, 2004.
- Nelson, Alondra. *The Social Life of DNA: Race, Reparations, and Reconciliation After the Genome*. Boston: Beacon Press, 2016.
- Potter, David M. *The Impending Crisis, 1848-1861*. Edited and completed by Don E. Fehrenbacher. New York: Harper & Row, 1976.
- Prior, C.M. *Early Records of the Thoroughbred Horse Containing Reproductions of Some Original Stud-Books, and Other Papers, of the Eighteenth Century*. London: Sportsman Office, 1924.
- Rader, Karen. *Making Mice: Standardizing Animals for Medical Research, 1900-1955*. Princeton: Princeton University Press, 2004.
- Raff, Daniel M.G. and Philip Scranton, eds. *The Emergence of Routines: Entrepreneurship, Organization, and Business History*. New York: Oxford University Press, 2017.
- Rappaport, Erika. *A Thirst for Empire: How Tea Shaped the Modern World*. Princeton, NJ: Princeton University Press, 2017.
- Raswan, Car. *The Raswan Index and Handbook for Arabian Breeders*. Richmond, VA: William Byrd Press, 1990.
- Reardon, Jenny. *The Postgenomic Condition: Ethics, Justice, and Knowledge After the Genome*. Chicago: University of Chicago Press, 2017.
- Reisner, Marc. *Cadillac Desert: The American West and Its Disappearing Water*. New York: Penguin Books, 1993.

- Ridley, Matt. *Genome: The Autobiography of a Species in 23 Chapters*. New York: HarperCollins, 1999.
- Ritvo, Harriet. *The Animal Estate: The English and Other Creatures in the Victorian Age*. Cambridge, MA: Harvard University Press, 1987.
- Ritvo, Harriet. *The Platypus and the Mermaid and Other Figments of the Classifying Imagination*. Cambridge, MA: Harvard University Press, 1997.
- Robertson, William H.P. *The History of Thoroughbred Racing in America*. Englewood Cliffs, NJ: Prentice-Hall, Inc, 1964.
- Roediger, David R. *The Wages of Whiteness: Race and the Making of the American Working Class*. London: Verso, 1991.
- Rosenberg, Charles E. *The Cholera Years: The United States in 1832, 1849, and 1866*. Chicago: University of Chicago Press, 1987.
- Rossdale, Peter. *Horse Breeding*. London: David & Charles, 1981.
- Russell, Edmund. *Greyhound Nation: A Coevolutionary History of England, 1200-1900*. New York: Cambridge University Press, 2018.
- Russell, Nicholas. *Like Engend'ring Like: Heredity and Animal Breeding in Early Modern England*. New York: Cambridge University Press, 1986.
- Rydell, Robert W. and Rob Kroes. *Buffalo Bill in Bologna: The Americanization of the World, 1869-1922*. Chicago: University of Chicago Press, 2005.
- Sahlins, Peter. *1668: The Year of the Animal in France*. New York: Zone Books, 2017
- Said, Edward. *Orientalism*. New York: Pantheon Books, 1978.
- Saraiva, Tiago. *Fascist Pigs: Technoscientific Organisms and the History of Fascism*. Cambridge, MA: MIT Press, 2016.
- Schofield, John, John Carmen, and Paul Belford. *Archaeological Practice in Great Britain: A Heritage Handbook*. New York: Springer-Verlag, 2011.
- Shapin, Steven and Simon Schaffer. *Leviathan and the Air-Pump: Hobbes, Boyle, and the Experimental Life*. Princeton, NJ: Princeton University Press, 1985.
- Siltzer, Frank. *Newmarket: Its Sport and Personalities*. New York: Charles Scribner's Sons, 1923.

Simpson, Elizabeth M. *Bluegrass Houses and Their Traditions*. Lexington, KY: Transylvania University Press, 1932.

Slaton, Amy. *Reinforced Concrete and the Modernization of American Building, 1900-1930*. Baltimore: Johns Hopkins University Press, 2001.

Spickard, Paul. *Almost All Aliens: Immigration, Race, and Colonialism in American History and Identity*. New York: Taylor & Francis, 2007.

Squires, Jim. *Headless Horsemen: A Tale of Chemical Colts, Subprime Sales Agents, and the Last Kentucky Derby on Steroids*. New York: Henry Holt and Company, 2009.

Sterngrass, Jon. *First Resorts: Pursuing Pleasure at Saratoga Springs, Newport, and Coney Island*. Baltimore: Johns Hopkins University Press, 2001.

Stewart, James B. *Den of Thieves*. New York: Touchstone, 1992.

Stewart, Mart A. "Environmental History: Profile of a Developing Field." *The History Teacher* 31, no. 3 (May 1998): 351-368.

Struna, Nancy. "Formalizing of Sport and the Formation of an Elite: The Chesapeake Gentry, 1650-1720s." *Journal of Sport History* 13 (Winter 1986): 212-234.

Struna, Nancy. "The North-South Races: American Thoroughbred Racing in Transition, 1823-1850." *Journal of Sport History* 8, no. 2 (Summer 1981): 28-57.

Thévenot, Laurent. "Governing Life by Standards: A View from Engagements." *Social Studies of Science* 39, no. 5 (October 2009): 793-813.

Thurtle, Phillip. *The Emergence of Genetic Rationality: Space, Time, & Information in American Biological Science, 1870-1920*. Seattle: University of Washington Press, 2007.

Timmermans, Stefan and Steven Epstein. "A World of Standards but not a Standard World: Toward a Sociology of Standards and Standardization." *Annual Review of Sociology* 36 (August 2010): 69-89.

Trevathan, Charles. *The American Thoroughbred*. New York: The Macmillan Company, 1905.

Ulack, Richard, Karl Raitz, and Gyula Pauer, editors. *Atlas of Kentucky*. Lexington, KY: University Press of Kentucky, 1998.

Upton, Peter and Hossein Amirsadeghi, eds. *Arabians*. Lincoln, NE: First Chronicle Books, 2006.

- Vamplew, Wray. *The Turf: A Social and Economic History of Horse Racing*. New York: Viking, 1976.
- Vanderwood, Paul. *Satan's Playground: Mobsters and Movie Stars at America's Greatest Gaming Resort*. Durham, NC: Duke University Press, 2010.
- Varola, Franco. *Typology of the Racehorse*. London and New York: J.A. Allen, 1977.
- Vinsel, Lee Jared. "Designing to the Test: Performance Standards and Technological Change in the US Automobile after 1966." *Technology and Culture* 56, no. 4 (November 2015): 868-894.
- Vosburgh, W.S. *Racing in America, 1866-1921*. New York: Jockey Club, 1922.
- Voskuhl, Adelheid. *Androids in the Enlightenment: Mechanics, Artisans, and Cultures of the Self*. Chicago: University of Chicago Press, 2013.
- Wailoo, Keith & Stephen Pemberton. *The Troubled Dream of Genetic Medicine: Ethnicity and Innovation in Tay-Sachs, Cystic Fibrosis, and Sickle Cell Disease*. Baltimore: Johns Hopkins University Press, 2006.
- Wallace, Anthony F.C. *Rockdale: The Growth of an American Village in the Early Industrial Revolution*. New York: Alfred A. Knopf, 1978.
- Wells, Spencer. *The Journey of Man: A Genetic Odyssey*. Princeton: Princeton University Press, 2002.
- Whyte, James Christie. *History of the British Turf, From the Earliest Period to the Present Day*, vol. 1. London: Henry Colburn, 1840.
- Willett, Peter. *The Classic Racehorse*. Lexington, KY: University Press of Kentucky, 1982.
- Willett, Peter. *An Introduction to the Thoroughbred*. London: S. Paul, 1966.
- Willett, Peter. *Makers of the Modern Thoroughbred*. Lexington, KY: University Press of Kentucky, 1986.
- Willett, Peter. *The Thoroughbred*. New York: Putnam, 1970.
- Williams, Raymond. *The Country and the City*. London: Chatto and Windus, 1973.
- Worster, Donald. *Rivers of Empire: Water, Aridity, and the Growth of the American West*. New York: Oxford University Press, 1985.
- Worster, Donald. "Transformations of the Earth: Toward an Agroecological Perspective in History." *Journal of American History* 76, no. 4 (March 1990): 1087-1106.