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## Bred for the Race: Thoroughbred Breeding and Racial Science in the United States, 1900–1940

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### ABSTRACT

In the first four decades of the twentieth century, horse racing was one of America's most popular spectator sports. Members of America's elite took to breeding and racing horses as one of their preferred pastimes. Coinciding with an increase in immigration and the rediscovery of Mendelian genetics, the idea that careful breeding of thoroughbreds would result in improved horses resonated with Americans worried about racial degeneration. Scientists committed to racial ideologies looked to thoroughbreds—whose owners and breeders maintained extensive pedigree records—to understand the science of genetic inheritance. Harry H. Laughlin, superintendent of research at the Eugenics Record Office at Cold Spring Harbor, Long Island, pored over breeding charts and race results to develop a mathematical model of inheritance that he called the “inheritance coefficient.” He believed his careful study of horses would yield findings that he and his fellow eugenicists could apply to humans. Thoroughbred breeders followed trends in genetics while contributing to the production of scientific knowledge. Pedigree charts available to bettors at race tracks helped normalize concepts of biological inheritance for race track attendees of all classes. Horse racing's popularity in the United States contributed to the diffusion of the concept of biological race that originated as an ideological project of the ruling class. This paper analyzes the role of thoroughbred breeding and racing in the formation and popularization of racial ideology by situating breeding farms as sites of

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The following abbreviations are used: *BH*, *Blood-Horse*; BP, Belmont Family Papers, Rare Book and Manuscript Library, Columbia University Library; LBP, Brodhead/Broadhead Family Genealogical Research Papers, Manuscripts, Archives, and Rare Books Division, New York Public Library. Following the convention of non-specialist texts, I do not capitalize “thoroughbred.” I retain original capitalization in quotations.

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knowledge production and racecourses as places that exhibited performances of racial science for large audiences.

KEY WORDS: genetics, racial science, eugenics, horseracing, thoroughbreds, breeding

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## INTRODUCTION

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, “would make the best mate for the American champion, Reigh Count?”<sup>1</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>2</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>3</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>4</sup> Writers suggested inbreeding in order to return to Reigh Count

1. “Mating Contest,” *BH*, 26 Oct 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.

2. “Reigh Count,” *Time*, 16 Dec 1929, 44.

3. “Reigh Count Mating Contest,” *BH*, 21 Dec 1929, 9.

4. “Reigh Count Mating Contest,” *BH*, 25 Jan 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.

“the blood of all the great successes in his make-up.”<sup>5</sup> Others cautioned that the mate should be “enough of an outcross . . . to insure for the offspring a stable nervous system.”<sup>6</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>7</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 state-of-the-art biology. By appealing to science, entrants legitimized their claims. More often than not, such claims were spurious, often consisting of nothing more than thinly veiled expressions of racial and sexual politics.<sup>8</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 elites to imagine breeding farms as sites of knowledge production and racecourses as 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.

I argue for a reciprocal relationship between thoroughbred breeding, horse-racing, and the emerging discipline of genetics. While horse breeders followed scientific developments 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

5. “Reigh Count Mating Contest,” *BH*, 14 Dec 1929, 9.

6. “Reigh Count Mating Contest,” *BH*, 23 Nov 1929, 10.

7. “Prudery is Chosen,” *BH*, 22 Feb 1930, 270.

8. 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.

and admiration, and as a popular sport, horseracing helped diffuse concepts of genetic race that bolstered American elites' claims to natural superiority.<sup>9</sup> While early twentieth-century thoroughbreds reflected and reinforced the racialized discourse of the period, the interaction among 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 elites could recreate themselves in the image of their animals.

The intelligent interest in thoroughbred bloodstock that animated the Reigh Count breeding contest ties together strains from the history of race and the history of science in the United States. 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>10</sup> Harriet Ritvo argued that understanding relationships between humans and animals could illuminate society's underlying assumptions and unexpressed tensions. 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>11</sup> Given the cultural associations of horses with power, historian of

9. 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, NJ: Princeton University Press, 2004).

10. 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'reing Like: Heredity and Animal Breeding in Early Modern England* (Cambridge: Cambridge University Press, 1986); Kohler, *Lords of the Fly* (ref. 9); 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).

11. Harriet Ritvo, *The Animal Estate: Humans and Other Animals in the Victorian Age* (Cambridge, MA: Harvard University Press, 1989), 3. For a discussion about the special place of horses within the discourse of inheritance, see Carole Case, *The Right Blood: America's Aristocrats in Thoroughbred Racing* (New Brunswick, NJ: Rutgers University Press, 2001); Donna Landry, *Noble Brutes: How Eastern Horses Transformed English Culture* (Baltimore: Johns Hopkins University Press, 2008); 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);

science Phillip Thurtle noted, “Theories on breeding held by high profile [horse] owners were perhaps the most widely disseminated theories on heredity in late nineteenth-century America.”<sup>12</sup> Leland Stanford’s horse farm, which primarily consisted of non-thoroughbred 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>13</sup>

Unlike trotting horses, which had to meet a minimum pace to qualify as registered members of the breed, even the slowest horse would be considered a thoroughbred if both its parents were. The bodies of these equine elites served as living libraries of hereditary information that the American upper class consulted to establish a biological basis for their social superiority.

Thoroughbreds arrived in North America in the eighteenth century when colonial elites, educated mostly at Cambridge, returned home bitten by the racing bug. In England, kings, noblemen, and wealthy landowners had developed a breed of horses explicitly for racing. They found that mixing their best native stock with bloodlines from Arabia and Libya produced animals with exceptional speed. By 1730, breeders claimed that they would stop introducing new bloodlines to the thoroughbred pool. All thoroughbreds, unless bred fraudulently, descend from three sires: the Byerly Turk, the Darley Arabian, and the Godolphin Arabian.<sup>14</sup>

Mike Huggins, *Flat Racing and British Society, 1790–1914: A Social and Economic History* (London: Frank Cass, 2000); Katherine C. Mooney, *Race Horse Men: How Slavery and Freedom Were Made at the Racetrack* (Cambridge, MA: Harvard University Press, 2014); Rebecca Cassidy, *The Sport of Kings: Kingship, Class and Thoroughbred Breeding in Newmarket* (Cambridge: Cambridge University Press, 2002); and Rebecca Cassidy, *Horse People: Thoroughbred Culture in Lexington & Newmarket* (Baltimore: Johns Hopkins University Press, 2007).

12. 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).

13. Thurtle, *Emergence of Genetic Rationality* (ref. 12), 50.

14. Within the literature, the name of the Byerly Turk is sometimes spelled Byerley.

Racing thoroughbreds became a preferred form of enjoyment in the colonies, and members of all social classes gathered to watch horses run. The American Jockey Club, which consisted more of well-heeled owners than underfed riders, formed in 1894 in New York City. Like its British counterpart, which was founded in 1750, the Jockey Club governed thoroughbred identification and breeding. In the United States, the Jockey Club maintained the *American Stud Book*, an extensive genealogy of thoroughbreds born in the country. Rebecca Cassidy, an anthropologist who studies the culture of contemporary horseracing, observed that “the blood of racehorses is perceived as gendered, noble, finite and English by its human custodians.”<sup>15</sup> Controlling thoroughbred bloodstock acted as a surrogate for Americans who lacked the inherited privilege of aristocracy. 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>16</sup>

In addition to its role as a totemic animal for the upper class, the thoroughbred became an experimental object for the first generation of American

15. Cassidy, *Sport of Kings* (ref. 11), 11. For a discussion of American elites adopting the cultural symbols of European aristocrats, see Sven Beckert, *The Monied Metropolis: New York City and the Consolidation of the American Bourgeoisie, 1850–1896* (New York: Cambridge University Press, 2003); Thurtle, “Breeding and Training Bastards” (ref. 12), 68.

16. 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* (New York: W.W. Norton & Company, 1975). 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).

geneticists. The Jockey Club's extensive and meticulous records of thoroughbred genealogies provided biologists with an enormous data set from which to study inheritance, and racing horses provided an empirical measure for the success of breeding programs. A horse's speed on a flat course over a prescribed distance determined its worth not only in dollar value, but also in genetic material.

Interest in genetic material increased after the Darwinian revolution in biology and the rediscovery of Mendelian genetics in the twentieth century. Ideas of inheritance that had been developed through the art of livestock husbandry gained currency as applicable to people. Natural scientists who began studying human beings within an evolutionary model looked to the nonhuman world to argue for human variability. This line of research combined with theories of racial difference to bolster a strong transnational eugenics movement. In the United States, forced sterilizations and better breeding contests embodied the dual goals of the eugenics movement: preventing those deemed unfit from reproducing and encouraging the most able to pass on their genes to subsequent generations.<sup>17</sup> American eugenicists looked to the data produced by thoroughbred breeders as a guide for breeding humans.

This paper proceeds through three thematic sections: the concepts that informed thoroughbred breeding from 1900 to 1940; the emergence of the thoroughbred as an experimental organism for studying heredity; and the application of horse breeding knowledge to humans. Each section moves from tacit knowledge of inheritance to a modern, Mendelian conception of genetics. The first section analyzes the ideas of inheritance underlying the creation and maintenance of thoroughbred horses, and shows how ideas of progress and exclusivity were written into the bodies of thoroughbreds. Despite the overarching goals of thoroughbred breeding programs, scientists used thoroughbreds as experimental organisms to understand genetics. The second section studies the logic and flaws of using thoroughbreds to understand inheritance. Because of the popularity of horse racing and its general spectacle, thoroughbred breeders generated wide support for their visions of racial science. The third section looks at how people observing thoroughbreds adopted the assumption of biological progress and applied it to themselves and to society.

17. Daniel J. Kevles, *In the Name of Eugenics: Genetics and the Uses of Human Heredity* (Cambridge, MA: Harvard University Press, 1986); Alexandra Minna Stern, *Eugenic Nation: Faults and Frontiers of Better Breeding in Modern America* (Berkeley: University of California Press, 2005). For the relationship between animal subjects and racial science, see Donna Haraway, *Primate Visions: Gender, Race, and Nature in the World of Modern Science* (New York: Routledge, 1989).

## BREEDING IDEOLOGY

People considered thoroughbreds many things—investments, athletes, companions—but before they became any of those things, they were horses, *Equus caballus*, undistinguished in their taxonomy from Arabian, Andalusian, or even pedestrian draft horses. Like the show breeds of the Victorian dog fancy, thoroughbreds emerged through the fictions of nobility, progress, and exclusivity.<sup>18</sup> Breeders used the track to test biological progress. Times on flat courses over standard distances measured the success of breeding programs. But until a horse was old enough to prove itself in a race, inheritance was the sole criterion on which to judge it. In horse breeding circles, blood became, and remains, the preferred metonym for the entire hereditary complex.<sup>19</sup> Concentrated breeding efforts transformed animal species biologically by privileging those characteristics desired by humans.<sup>20</sup> The meanings ascribed to thoroughbreds shaped their biology.<sup>21</sup> Thoroughbreds represented a population that, through careful control, could illustrate biological progress—the improvement of the breed. After all, it was easier for wealthy stockbreeders to control whom their horses mated with than it was to control the marriage selections of their sons or daughters. By manipulating thoroughbred genes, breeders, as historian Jenny Davidson wrote, set “a place for nature at culture’s table.”<sup>22</sup>

Just like categories of race, the definition of the thoroughbred horse was socially constructed. As Peter Willett notes, “The thoroughbred is a creature of English breeders.”<sup>23</sup> By governing and controlling thoroughbred bloodlines, horse breeders created a market for horses with exclusive pedigrees. Breeding was—and remains—an important component of the thoroughbred industry despite the vagaries of reproduction. “That the predictive capacity of both pedigree and the bloodstock agent are highly approximate,” Cassidy wrote, “is disguised by the appearance of expertise.”<sup>24</sup> Such expertise about thoroughbred

18. Ritvo, *Animal Estate* (ref. 11), 5.

19. The continued publication of *The Blood-Horse* confirms its contemporary usage.

20. Recently writers have emphasized how breeding domesticated animals inscribes their flesh with the history of class formation and capitalism; see Donna Haraway, *The Companion Species Manifesto: Dogs, People, and Significant Otherness* (Chicago: Prickly Paradigm Press, 2003), 7; and Mitchell and Thurtle, *Data Made Flesh* (ref. 12).

21. Haraway, *Companion Species Manifesto* (ref. 20), 11.

22. Jenny Davidson, *Breeding: A Partial History of the Eighteenth Century* (New York: Columbia University Press, 2009), 1.

23. Peter Willett, *The Thoroughbred* (New York: G.P. Putnam’s Sons, 1970), 11–12.

24. Cassidy, *Sport of Kings* (ref. 11), 100–02.

bodies is evident in a passage from a recent breeding manual: “A horse should stand four square, i.e. with ‘one leg at each corner’, [sic] and each part of his body should be in proportion with the rest. . . . The shoulder should be long and sloping, ideally at an angle of 45 degrees. The forearm should be comparatively long and muscular, the knee large and flat and the cannon bone short and strong.”<sup>25</sup>

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 “discovered that no less than ten entrants whose birth covered a stretch of only three years were reported to have had various sires; but the same dam. . . . The dam, she said, was Unk.” 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>26</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.

In addition to guiding matings on their stud farms, breeders used their horses’ pedigrees to establish transnational kinship relationships with European elites. When the American Jockey Club formed in the last decade of the nineteenth century, its members used thoroughbreds to bolster their own class status. In a nation obsessed with blood but lacking in titled aristocrats, elites consolidated their authority by being well-wed. They played out this fantasy with the horses on their breeding farms, who, unlike intransigent sons or daughters, lacked the ability to object to a negotiated pairing. Thoroughbred breeders, like Lucas Brodhead and August Belmont Jr. leveraged their breeding knowledge to consolidate power that rivaled Europe’s titular nobility. Americans tried to introduce their horses, much as they did with their sons and daughters, into the highest levels of European society. Belmont offered the services of his famed stallion Tracery to Leopold de Rothschild and King Edward VIII. Belmont expressed hope that “the produce may chance to give . . . some day the pleasure that Tracery afforded” him. An offspring by Tracery, Belmont

25. Tony Pavord and Marcy Drummond, *Horse Breeding: A Practical Guide for Owners* (New York: Howell Book House, 1990), 14.

26. “Too Many Sons and Daughters of Unk,” *BH*, 29 Jun 1929, 6.

wrote, “might give His Majesty equal pleasure.”<sup>27</sup> The pairing of Tracery with thoroughbreds linked to the Rothschilds or the royal family constituted a symbolic marriage of American elites and European nobility. That Europeans coveted American bloodlines signaled to class-anxious Americans that they had earned their position among the international cultural elite.

Breeders considered a successful pairing an event worth celebrating. They projected their own aspirations, like marrying into prominent families, onto their thoroughbreds. Frederic P. Olcott’s pride poured off the page in an 1897 letter to Belmont that described the recent coupling of a pair of horses: “Rainbow arrived yesterday in good condition. . . . Lord Eldon was so pleasing in her eyes that she took him at once. . . . He has previously had intercourse with . . . other female representatives of the upper crust, but of all the luminaries, I am inclined to think that Rainbow suits him best at present.”<sup>28</sup> Olcott also reported that his stud groom “swears by all that is great good and holy that Lord Eldon can sing patriotic songs.”<sup>29</sup> In the pre-Mendelian period, upper class pairings set the standard for breeding thoroughbreds. When pairings were successful, as in the case of Rainbow and Lord Eldon, it was an occasion to celebrate.

The pre-Mendelian fascination with pedigree reflected a desire to prove worth that carried over to an emerging American elite. Although members of the Jockey Club acted as gatekeepers of the thoroughbred title, the only thing more exclusive than their horses’ bloodlines was membership in their club. American horse breeders parried accusations of being arrivistes the same way they claimed elite status for the horses they bred, by delving into their own genealogies. Lucas Brodhead, superintendent at Woodburn stock farm, one of the nation’s leading thoroughbred farms, who, in a regal flourish, resided in Versailles, Kentucky, hired William F. Boogher to investigate his family tree. Boogher spent seventeen years on the trail of Brodhead’s forebears, and discovered Brodhead’s “royal genealogical line.”<sup>30</sup> Traced back to “the Old World” on both sides, Brodhead’s genealogy constituted “a most remarkable case” that

27. August Belmont to Leopold de Rothschild, 14 Nov 1913, BP, Box 11, Folder Leopold de Rothschild 14 Oct 1913.

28. Frederic P. Olcott to August Belmont, 28 Nov 1897, BP, Box 9, Folder Frederic P. Olcott 28 Nov 1897.

29. Frederic P. Olcott to August Belmont, 7 May 1898, BP, Box 9, Folder Frederic P. Olcott 7 May 1898.

30. William F. Boogher to Lucas Brodhead, 8 Dec 1911, LBP, Box 1, Folder Boogher, William F. correspondence.

warranted congratulations.<sup>31</sup> Admiring the pedigree they uncovered, Boogher and Brodhead could rejoice in “its cleanliness.”<sup>32</sup> Brodhead’s extensive family history research earned him membership in several lineage societies. His application to Colonial Dames of the State of New York traced seven generations back to 1667. Besides being a member of the Sons of the American Revolution, Brodhead claimed fourteen different legacies in his application to the Society of Colonial Wars in the Commonwealth.<sup>33</sup> Brodhead’s distinguished ancestry garnered the attention of the editor of *American Ancestry*, an anthology that contained “the lineages of a majority of the families of America, who are able to trace to colonial times.”<sup>34</sup> Indeed, Lucas Brodhead’s obituaries remarked that he “was not only a ‘man of mark’ in ‘the blue-grass region,’ but widely known throughout the eastern states as ‘the prince of gentlemen horsemen’” who “came of a long line of gallant men and high-bred women.”<sup>35</sup>

Even as connecting one’s lineage to an early settler of the United States imparted status, the best-connected Americans tried to link their families to Old World aristocrats. Sarah Lawrence Perry Merrell, whose name alone announced her status, wrote to her cousin, August Belmont Jr., about genealogical work she was conducting at the Astor and Lenox libraries: “I am trying to connect our ancestor John Slidell with an English family of Slydells, who owned a most wonderful estate near London early in the eighteenth century.”<sup>36</sup> Another Belmont relation—and one who married into the title of Countess of Paris—engaged in genealogical research assumed Belmont would “have a complete genealogy” and hoped he could assist her “by the gift of a copy of it.”<sup>37</sup>

The Countess’s assumption proved correct, as Belmont had paid genealogists to peer into his family’s history. The difficulty of connecting one’s family

31. William F. Boogher to Lucas Brodhead, 8 Jun 1894, LBP, Box 1, Folder Boogher, William F. correspondence.

32. William F. Boogher to Lucas Brodhead, 1 Dec 1911, LBP, Box 1, Folder Boogher, William F. correspondence.

33. Lucas Brodhead Application to Colonial Dames of the State of New York, n.d., LBP, Box 2, Folder 2.1.

34. Editor of *American Ancestry* to Lucas Brodhead, n.d., LBP, Box 1, Folder General Correspondence 1898–1932.

35. W. Gordon McCabe, *Lucas Brodhead of Kentucky* (n.p., 1916), 3, LBP, Box 1, Folder Brodhead family undated.

36. Sarah Lawrence Perry Merrell to August Belmont II, Oct 1908, BP, Box 9, Folder Merrell, Sarah Lawrence Perry (Mrs. Frederick W.).

37. Marie Rosine Slidell St. Roman to August Belmont, 23 Oct 1920, BP, Box 12, Folder St. Roman, Marie Rosine Slidell, Countess de Paris.

to transnational and trans-historical elites inspired a cottage industry of genealogical research. Belmont commissioned James Horatio Gottheil, a professor at Columbia University, to research and write about the Belmont genealogy. At times, Belmont's demands strained the patronage relationship, and Gottheil repeatedly informed Belmont of "the difficulty which attaches to all such historical and genealogical [*sic*] studies, more especially to those which treat of Jewish family history . . . for the fewest have taken sufficient interest in themselves to preserve documents which the historian must of necessity use." Gottheil tracked two families, the Belmonts in Alzey and the Belmontes in Amsterdam, but the "remnants of the Dutch branch of the family seem to have greatly fallen from the high estate of their ancestors."<sup>38</sup> August Belmont Sr. changed his name from Schönberg upon his emigration to the United States, and he even began attending Episcopal services to galvanize his position among the New York elite, which along with a handful of Jewish members, consisted primarily of Presbyterians and Episcopalians.<sup>39</sup> Gottheil did not refer to any members of the Schönberg clan in Germany, and the unsuccessful branch of the family warranted no further mention in Gottheil's reports. It is likely that Gottheil intended to flatter his client, because Belmont spared no expense tracking his family history. At Belmont's request, Gottheil spent two months in Europe following the records of the Belmont family and even took a leave of absence from teaching to travel to Spain.<sup>40</sup> All of this because, as Belmont informed Gottheil, constructing the Belmont family history was "altogether too important to pass a hurried decision on."<sup>41</sup>

Although peering into family histories supplied justification for the social success of elite families, 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. Frequently

38. Richard James Horatio Gottheil to August Belmont II, 16 Mar 1900, BP, Box 7, Folder Gottheil, Richard James Horatio.

39. Beckert, *Monied Metropolis* (ref. 15), 59.

40. Richard James Horatio Gottheil to August Belmont II, 16 Mar 1900, BP, Box 7, Folder Gottheil, Richard James Horatio.

41. August Belmont to Richard James Horatio Gottheil, 20 Jan 1915, BP, Box 7, Folder Gottheil, Richard James Horatio.

we see well-born highly educated men and women become abject failures in public and business and professional life. They are just not there. So it is with the high-priced failures among the horses.”<sup>42</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.

Thoroughbred breeders redoubled their efforts at scientific breeding when faced with the uncertainty of success on the track. Breeders attempted to breed out traits they found undesirable in racehorses. The American Remount Association, a group of “horse breeders, farmers, fox hunters, polo players, exhibitors, gentlemen riders, racing men, Army officers, and other persons interested in horses and horsemanship,” chartered their organization to “promote the breeding of better horses, and prevent the breeding of scrubs.” The system reflected the organization’s belief that “a general weeding out of stallions that are not topnotchers would be a good thing.”<sup>43</sup> Deterioration of thoroughbred bloodstock became a common concern among horse breeders. Indeed, “the outcry against ‘deterioration,’ [was] constant.”<sup>44</sup> Throughout the 1920s and 1930s, the *Blood-Horse* became devoted to ridding racetracks of undesirables—both equine and human. Editorial policy deferred to Darwin on matters related to breeding and social policy: “The truth is helpful to racing, as to all things. Truth will rid the Turf of its undesirables.”<sup>45</sup>

By the third decade of the twentieth century, breeders had begun to adopt the language and methods of scientific genetics to inform their breeding of thoroughbreds and their 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 continued, “Some recessive hereditary traits are sex-linked. . . . Such is the case with color-blindness, also haemophilia in humans. This explains why certain hereditary traits skip entire generations, to reappear later under certain combinations.”<sup>46</sup> The most

42. “On the Other Side, Too,” *BH*, 23 Nov 1929, 7.

43. “Improving the Breed,” *BH*, 6 Jul 1929, 21–22.

44. “Human Nature,” *BH*, 19 Oct 1929, 4.

45. “Facts,” *BH*, 8 Mar 1930, 358.

46. Amer, “The Breaking of Blood Vessels,” *BH*, 22 Mar 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.

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>47</sup>

Breeders of thoroughbreds considered themselves on the cutting edge of genetics. Trade magazines and technical journals cited recent scientific publications to purge the practices of its superstitious past. Writers lampooned the “Same Age system”—which prescribed that the most desirable offspring resulted from pairings of same-aged horses—as “the corner stone of a bridge in genetics built on the quicksand of untenable theory.”<sup>48</sup> Research conducted by Cossar Ewart, F.B. Mumford, and Sir Everett Millais, all prominent agricultural scientists, disproved the theory of telegony, which dictated that traits from previous matings contributed to the characteristics of any progeny a female bore. In horses this meant that “when a mare is mated to a jackass and has a mule, all subsequent offspring will have some taint of jackass, regardless of the high character and quality of the horse sires thereafter in use.” This theory had duped notable scientists like Charles Darwin, Louis Agassiz, and many eugenic thinkers who applied the belief to human couplings.<sup>49</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 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 have shown that the most important factor to observe in inbreeding is that the common ancestor be sound (i.e. he should not be the carrier of defects, either physical or temperamental). Inbreeding based on unsound or bad breeding material must, in the majority of cases, produce bad and unsound results, as the recombination of characters would tend to intensify hereditary constitutional defects.”<sup>50</sup>

47. “Inbreeding and Crossing,” *BH*, 7 Sep 1929, 4.

48. Mankato, “Stud Statistics,” *BH*, 25 May 1929, 17.

49. “Telegony,” *BH*, 28 Sep 1929, 4.

50. Amer, “Notes on Inbreeding,” *BH*, 23 Nov 1929, 14.

The sport of horseracing, wrote a journalist who published under the pen name Old Rosebud, was “really for ‘the improvement of the breed.’” And the indiscriminate use of gelding upset his sporting sensibilities. A gelding’s good performance on the Turf constituted a Pyrrhic victory for horse breeders: a strong running gelding’s genes could never improve the breed’s stature.<sup>51</sup> Old Rosebud’s prescription was consistent with the *Blood-Horse*’s editorial policy, which reflected the beliefs of wealthy breeders: “The Blood-Horse knows that the surest way to get rid of rubbish is to quit producing it, and that the only way to surely prevent its production is through enlightenment—through education.”<sup>52</sup>

“Rubbish” included horses who did not perform well on the racetrack as well as great performers who suffered hereditary afflictions. Mankato, a regular contributor to the *Blood-Horse*, recommended against breeding horses with a respiratory ailment known colloquially among breeders as roaring. “If the number of roaring ancestors be excessive,” he wrote, “few of the offspring would remain sound. . . . To attain that undesirable state of affairs, the young breeder has but to follow the advice of the anti-eugenists.”<sup>53</sup> When Humorist, the 1921 English Derby winner, died about four weeks after his victory, breeders identified the cause of death—a ruptured blood-vessel in the lung—and blamed Humorist’s forebears and breeders. The *Blood-Horse* commented, “Humorist was the victim of a hereditary defect—bleeding.” Despite his success, observers reported that his death was a boon to the thoroughbred race. Had he lived, they argued, he would have mated with the best English mares and contaminated the bloodstock.<sup>54</sup>

## BECOMING EXPERIMENTAL OBJECTS

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>55</sup>

<sup>51.</sup> Old Rosebud, “Odds and Ends,” *BH*, 17 May 1930, 624–25.

<sup>52.</sup> “Best to Best,” *BH*, 5 Jul 1930, 799–800.

<sup>53.</sup> Mankato, “Roaring,” *BH*, 9 Nov 1929, 18.

<sup>54.</sup> Amer, “The Breaking of Blood-Vessels,” *BH*, 22 Mar 1930, 408.

<sup>55.</sup> Garland E. Allen, “The Introduction of *Drosophila* into the Study of Heredity and Evolution: 1900–1910,” *Isis* 66, no. 3 (1975): 322–33.

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>56</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>57</sup> Sturtevant was not alone in researching thoroughbred genetics in the early twentieth century. A 1929 article in *The Science News-Letter* written by Helen M. Davis informed interested parties that "the alliance between the horse-breeder and the research scientist is closer and of longer standing than the casual follower of the ponies might think."<sup>58</sup>

Because of their familiarity with and proximity to horses, scientists and natural philosophers studying heredity used horses as model organisms. By managing pairings, breeders realized they could transform an animal's biology to reproduce its most desirable traits. This process, developed over centuries, led to a folk knowledge of heredity that informed nineteenth-century naturalists. Darwin relied on breeders' knowledge to bolster his case for natural selection: "Slow though the process of selection may be, if feeble man can do much by his powers of artificial selection, I can see no limit to the amount of change . . . which may be effected in the long course of time by nature's power of selection."<sup>59</sup>

Advances in biological science and its application to racial science made the call for experimental objects much more urgent. Eugenicists relied on stock-breeders to provide information about inheritance and artificial selection.

<sup>56</sup> Kohler, *Lords of the Fly* (ref. 10), 26–27.

<sup>57</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.

<sup>58</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.

<sup>59</sup> Charles Darwin, *The Origin of Species* (1859; reprint, Cambridge, MA: The Harvard Classics, 1909), 84.

Francis Galton, Darwin's cousin and an early promoter of eugenics, wrote, "The natural character and faculties of human beings differ at least as widely as those of the domesticated animals, such as dogs and horses, with whom we are familiar." Galton referenced this material explicitly, writing, "A vast amount of material that bears on Eugenics exists in print, much of which is valuable and should be hunted out and catalogued. Many scientific societies, medical, actuarial, and others, publish such material from time to time. The experiences of breeders of stock of all kind, and those of horticulturists, fall within this category."<sup>60</sup> Galton noted the inheritability of certain behavioral and physical traits in animals. Likewise, the basis of eugenics was the permanence across generations of those same characteristics in humans.

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 discrepancy between scientific knowledge of animals and of humans. Frederick Hoffman, a German-born statistician, attempted to elevate racial difference to the level of actuarial science in his 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>61</sup> The paucity of data relating to humans compared with similar data governing animals forced people concerned with race to look at works that emphasized the natural history of nonhuman animals.

No doubt Harry H. Laughlin, a leading American eugenicist and director of the Eugenics Record Office at Cold Spring Harbor, New York, was familiar with racialist appeals to study the animal kingdom. In a 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

60. Francis Galton, *Essays in Eugenics* (London: The Eugenics Education Society, 1909), 2, 63.

61. Frederick L. Hoffman, "The Vital Statistics of the Negro" (1892), in Evelyn 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.

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>62</sup>

In the course of his decade-long research into 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 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>63</sup>

As a demonstration, Laughlin used his formulas to calculate the racing capacity of the famous thoroughbred Man o' War, considered the greatest racehorse of all time. Laughlin identified a popular question confronting horse racing enthusiasts: "Why, if Man o' War was the best horse which America

62. Davis, "Science Follows the Ponies" (ref. 58), 364, 374.

63. 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."

ever produced, did he not win all of his races?" Using his new statistical analysis, Laughlin determined that Man o' War possessed a racing capacity of 139.25, near the upper limit of racing capacity, which he set at 140. While a better horse might, on any given race day, lose to a poorer horse, Laughlin's approach to thoroughbreds created a method to evaluate the worth of a horse that used the scientific authority of statistics. At the conclusion of his first study of racing capacity, Laughlin wrote with confidence, "We are now in possession of a reliable yard-stick for the measure of racing capacity in the Thoroughbred horse. We are, therefore, now ready for the next stage of these researches which will seek the mathematical rules by which nature governs the inheritance of racing capacity."<sup>64</sup> Given Laughlin's eugenic biases, it is unsurprising that his investigation reinforced the importance of blood in thoroughbred performance. "The real substance of the prediction in heredity," he wrote, "goes back for its elements to actual race performance of the antecedent near blood-kin."<sup>65</sup> That Laughlin claimed the greatest influence on thoroughbred performance was the quality of near kin confirmed his eugenic beliefs and built an ideological bridge for making similar claims about humans. Laughlin invested his methods with the assumptions of eugenics and the problems of using thoroughbreds as experimental objects. Laughlin began with the assumption that Man o' War should possess the largest racing capacity, and the numerical data supported his supposition.

Thoroughbreds differed from fruit flies as experimental objects in two important regards. The first was the underlying ideology behind the breeding programs. Geneticists bred fruit flies in their experimental evolution laboratories hoping for random mutations. The specific characters of fruit flies—for instance having red eyes or white eyes—mattered less to geneticists than proving the mechanisms of evolutionary change. Horse breeders, however, based their enterprise on the presupposition of biological progress, which was laden with racial biases. By mating the best to the best, thoroughbred breeders believed that they could improve the breed. They used comportment and performance to measure progress along with centuries worth of data. The second difference between fruit flies and thoroughbreds as experimental organisms was in their species' reception. 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.

64. Ibid., 219, 222, 222.

65. Laughlin, "Racing Capacity, Part II," *Scientific Monthly* 38, no.4 (1934): 310–22, on 314.

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 *The 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.

### INHERITING IDEOLOGY

Almost as soon as scientists latched onto thoroughbreds as model organisms, a generation of racialist thinkers adapted their findings to human inheritance. By manipulating thoroughbred breeding to pursue the betterment of the breed—the ultimate goal of the sport of horse racing—breeders and eugenicists created what George Fredrickson referred to as “intellectualized racist” theory and ideology. Thoroughbred breeding projects represented a bridge between the human and the nonhuman world. Horse breeders first viewed themselves through the lens of perfected breeding stock, then applied the results of their breeding experiments to the larger society. 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 to house the Eugenics Record Office. From 1909 to 1940, the office researched human heredity and advocated nationally for eugenics programs.<sup>66</sup> Researchers at the Eugenics Record Office followed the dictum set forth by Francis Galton 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>67</sup>

Galton’s thinking permeated into treatises with broad appeal. William Ridgeway, a Cambridge archaeologist concerned about questions of race,

66. Case, *Right Blood* (ref. 11), 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.

67. Francis Galton, *Hereditary Genius: An Inquiry into Its Laws and Consequences* (London: Macmillan and Co., 1869), 1.

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>68</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 the lessons of supreme importance to the breeder which can be learned from the contemplation of the injury wrought to breeds of great value by the ill-judged and unscientific introduction of alien blood, a practice in no small degree due to a lack of historical knowledge.”<sup>69</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.

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>70</sup> For Grant, like Galton, heritable qualities did not refer only to physical characteristics. Whereas blue eyes and above-average

68. William Ridgeway, *The Origin and Influence of the Thoroughbred Horse* (Cambridge: Cambridge University Press, 1905), vii, 1.

69. Ibid., viii.

70. 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.

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.

Grant found confirmation of his preexisting racial biases in the history of Europe. Writing at the outbreak of World War I, Grant feared that Europe was committing racial suicide by sending the best stock from each country to the front to kill one another while the tired and poor huddled masses clamored for entry at U.S. ports. This would only exacerbate what he saw as an infusion of suboptimal breeding stock into the United States. “In the city of New York and elsewhere in the United States,” Grant wrote, “there is a native American aristocracy resting upon layer after layer of immigrants of lower races.”<sup>71</sup> Americans, Grant argued, traded their birthright of the continent to solve a labor problem. The new classes of immigrants to the United States, coming from southern and eastern Europe, lacked the ability to effectively govern, operate businesses, or impart religious and altruistic ideals. The Nordic race, of which Grant unsurprisingly considered himself a member, controlled the evolution of the nation.

Harry Laughlin echoed the theme of English—or Nordic—domination while summarizing his research on racing capacity in the thoroughbred. The thoroughbred, like his privileged race of people, originated in England. Improved over three centuries by deliberate human manipulation, thoroughbreds represented to Laughlin the pinnacle of horse breeds. Laughlin wrote, “The Thoroughbred, or running horse, was developed in Great Britain from ‘Arabian, Turk and Barb’ stallions, and light native British mares. . . . From Great Britain the Thoroughbred has spread over the entire world, and in turn has contributed foundation stock to nearly all of the best breeds of the world’s horses which require speed and stamina.”<sup>72</sup> Laughlin’s ideology of racial purity blinded him to the politics and hybridity inherent in the creation of the thoroughbred. Despite acknowledging the influence of genes from eastern horses, Laughlin considered the thoroughbred a decidedly British horse.

Breeders often reflected a similar ambivalence toward provenance. Beginning in the Gilded Age, Americans interested in breeding racehorses began distinguishing between 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

<sup>71</sup>. Ibid., 5.

<sup>72</sup>. Laughlin, “Racing Capacity, Part I” (ref. 63), 211.

debate. Expounding on immigration policy, Belmont Sr. wrote, “Immigration should 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>73</sup> By changing his name and disguising his religious heritage, Belmont enacted his vision of the model immigrant.

Gilded Age figures like Belmont generated disparate reactions from cultural observers. While New York elites consolidated their authority, Edith Wharton excoriated the excesses of New York society in the Gilded Age in her 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>74</sup> Newland Archer and other members of New York’s high society dismissed Beaufort’s posturing as the boorishness of the nouveau riche. Published in 1920, *The Age of Innocence* created a stir among New York City elites, who read the book as a *roman à clef* and scoured its pages “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: “There is no more likeness between the Belmonds and the Beauforts than between God Almighty and the devil.”<sup>75</sup>

As readers in the 1920s struggled to unmask the identities of Wharton’s characters, casual readers of the racing press could be forgiven for having a hard time distinguishing articles written about horses from those written about people. Articles published under the title “In Cupid’s Realm” announced weddings

73. August Belmont I to August Belmont II, 24 Feb 1878, BP, Box 2, Folder August Belmont I.

74. Edith Wharton, *The Age of Innocence* (1920; reprint, New York: Barnes & Noble Classics, 2004), 103, 19, 18.

75. Robert Sedgwick to August Belmont, 24 Oct 1920, BP, Box 12, Folder Robert Sedgwick.

among the horse racing elite, and the treatment of people perfectly mirrored the discussions of horses that surrounded these articles. Extensive lineage discussions and lists of parents' accomplishments overshadowed the accomplishments of the betrothed.<sup>76</sup> Likewise representations of thoroughbred horses embodied the achievements of entire classes and nations of people. An editorial cartoon declared, "Irish horses are putting it all over the English on British tracks." The accompanying drawing showed an Irish thoroughbred wearing a poor man's hat and smoking a pipe. The cartoon horse, devoid of the intelligence and nobility generally associated with the breed, grins oafishly at an English thoroughbred whose top hat and monocle clash with his bruised face.<sup>77</sup> Popular depictions of thoroughbreds conflated the characteristics of breeder and horse, reproducing stereotypes of race and national origin.

This construction suited the population of a nation rising on the world stage in politics, economics, and thoroughbred breeding. Speed was easily quantifiable and transferable across both time and space. Therefore it was with little irony that the *Blood-Horse* declared, "It has been stated that 'there never was a great nation or race of people that were produced on acid soil.'"<sup>78</sup> Nations needed horses, and horses flourished on the neutral limestone-based pastures like those in Kentucky. Statements about race in horseracing literature were not always devoid of mirth. A poem originally published in the *Chicago Tribune* and reprinted in the *Blood-Horse* used humor to convey its racialized agenda. It would not have taken readers of the poem "Improving the Breed" long to realize the author was not referring to equine bloodstock:

O, married ladies, guard your mates,  
Lest they should play the horses,  
For a long shot coming down the stretch  
Can start sixteen divorces.<sup>79</sup>

The poet played off horseracing's goals of improving the thoroughbred, while appealing to the popular belief in the improbability of human stock.

Improving the breed was such a powerful concept among horseracing fans that it proved to be an apt and easy metaphor for eugenicists to adopt. Real estate developer and heir to the Phelps-Stokes mercantile and mining fortune, W.E.D. Stokes reflected on the relationship between horse breeding and

76. "In Cupid's Realm," *BH*, 3 May 1930, 577.

77. "Irish Horses Are Putting it All Over the English on British Tracks," *BH*, 6 Jul 1929, 10.

78. Al D. Hughes, "Limestone and Acid Soils," *BH*, 5 Apr 1930, 474.

79. The Nighthawk, "Improving the Breed," *BH*, 3 Aug 1929, 21.

eugenics, and he defined the eugenics project in the drastic negative eugenics model promoted by Madison Grant. On eugenics, Stokes wrote, “It means breeding out of weaklings and defectives, and the breeding in of only the fittest and the best.” 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 eugenics movement. Like Grant, 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>80</sup>

Despite their pretensions, thoroughbred breeders could not force biology to submit to an easily predictable model for producing thoroughbreds with racing ability. A writer attached to the turf observed that “racing quality and breeding quality have biologically very different meanings and have nothing to do with each other.” Indeed, he continued to express his doubts about the idea of selecting for racing quality: “The hereditary qualities of a horse are not produced by that particular individual, but by his entire ancestry. The combination and recombination of these qualities cannot be controlled by the breeder, nor can these be influenced by the racing quality of the individual.”<sup>81</sup> According to some of the world’s top breeders, the explanation for disparities between horses with similar bloodlines lies in the “existence of a climatic influence or control which is experienced when members of certain families or sire lines are transferred from one country to another.”<sup>82</sup>

Although breeders of thoroughbreds aimed to eliminate undesirable traits through selective breeding, occasionally, as was the case with *Humorist*, the English champion possessed of a genetic defect, genetic ailments surfaced in champion horses. The single-minded and unnatural pursuit of speed among breeders had, according to Peter Willett, “wrought a physical transformation with striking increases in cope, speed and length of stride.”<sup>83</sup> However, Peter Rossdale, a contemporary thoroughbred breeder, notes the unintended consequences of selecting mating pairs based on speed. He writes, “If we select on

80. 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, II, 173.

81. Amer, “Racing and Breeding Quality,” *BH*, 1 Feb 1930, 162–63.

82. “By-Product,” *BH*, 15 Feb 1930, 231–32.

83. Willett, *Thoroughbred* (ref. 23), 51.

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.”<sup>84</sup>

Developments in veterinary science during the early twentieth century allowed for the transmission of genes that would have disappeared under natural circumstances. Aided by veterinarians, the same breeders who used eugenic methods as a means of improving the thoroughbred actually succeeded in creating a substantial proportion of racehorses who would be infertile without surgical intervention. A 1981 study concluded that 33 percent of thoroughbred mares suffer from an affliction known as pneumovagina. This condition—which is genetic—allows 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.<sup>85</sup> Intensive thoroughbred breeding, designed to improve horses’ bloodlines, created animals that were swift but unable to reproduce themselves without surgical intervention.

## CONCLUSION

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>86</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, Prudery succumbed to forage poisoning, a type of botulism.<sup>87</sup> The unexpected death of Prudery and the creation of an essentially infertile population exposed the hubris of trying to force nature to succumb to the will of humans. However, the assumptions of biological progress

84. Peter Rossdale, *Horse Breeding* (London: David & Charles, 1981), 13.

85. Ibid., 27–28.

86. “Prudery Not Available,” *BH*, 1 Mar 1930, 309.

87. “Prudery’s Unexpected Death,” *BH*, 5 Apr 1930, 478.

coupled with knowledge created on breeding farms proved attractive to humans nonetheless. An anecdote from W.E.D. Stokes's *The Right to be Well Born* illustrates this point.

Raised on a breeding farm for racehorses, "a lady of rare breeding, beauty and refinement of mind . . . by force of circumstances, married the son of parents of low unhealthy lineage, but who were possessed of great wealth." The union proceeded without trouble until the time came to have a child. Faced with the decision "to bear a child or be turned adrift in the world," the young woman "went outside and deliberately selected a stranger to be the father of her child, a man of good mind and healthy body, whom she discovered to be of good ancestry." The young woman later explained that "she could not go before her Maker with the crime on her head of bringing into the world an ill-bred child, with low tendencies."<sup>88</sup>

This story—its scant details make it seem apocryphal—encapsulated the relationship between racial science, eugenics, and horse breeding. Rather than condemn the protagonist's indiscretion, Stokes celebrated her decision, rhetorically asking his readers "who could blame her, under the circumstances?"<sup>89</sup> In Stokes's sympathetic narrative, the young daughter of once-successful horse breeders became a heroine rather than a harlot. She weighed the risks of infidelity, which in the early twentieth century could have led to penury and ostracism, against the possibility of producing a child with less than desirable traits. Stokes's story captured the complicated role of eugenics in twentieth-century America. From the point of view of eugenics, the young woman made the correct decision. Her infidelity, and the potential loss of her dignity and livelihood, paled in comparison to the moral imperative of ensuring the transmission of preferred genetic material.

That Stokes's young protagonist grew up on a stud farm is not an insignificant detail in the story. Stockbreeding of all kinds contributed to the rediscovery of Mendelian genetics in the twentieth century. However, the overlap between discourses of breeding thoroughbreds and breeding humans through eugenics was particularly strong. Breeding thoroughbreds contributed to the consolidation of cultural and economic authority of American elites at a time when eugenics reached a crest in popularity. Because of the difference in age of sexual maturation between humans and horses, horse breeders could observe five generations of horses within one human generation. Horses—those animals

88. Stokes, *Right to Be Well Born* (ref. 80), 119–20.

89. Ibid., 120.

considered most noble, aristocratic, and elegant—became sites at which people could observe the results of intensive artificial selection at an accelerated pace. As opposed to other experimental organisms, thoroughbreds represented progress. By producing successful racehorses, thoroughbred breeders confirmed their own visions of heredity.

Knowledge of pedigrees informed horseracing from the moment the foundation sires arrived in Great Britain. The lighter conformation and faster speeds of Arabian and Libyan horses made those breeds more desirable among those involved with racing. Winning racehorses lived lives of luxury in the paddock and on the stud farm, but as evidenced in Stokes's writing, breeders eliminated losing racehorses from the gene pool. Thoroughbred racing and breeding provided not only metaphors for eugenic sterilization, but also models for its implementation. Americans embraced thoroughbred racing to project cultural authority, but by applying stud farm methods and knowledge to their own affairs, elites used thoroughbreds as model organisms in two ways: to understand the science of heredity and to offer prescriptions for breeding a genetic aristocracy.

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