

**The Fairman Rogers Collection: An Introduction**

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The Fairman Rogers collection contains materials that provide information about and insight into the horse world of nineteenth century America. The majority of its items were donated to the University of Pennsylvania in 1893 by Fairman Rogers, a prominent Philadelphian and a professor and trustee of the University. The collection's significance lies in the crucial importance of horses as a source of energy during a period of rapid industrial development. As the United States industrialized, the use of horses increased, with horses providing the majority of power consumed by Americans for most of the century. This large-scale use of horse power contributed to the nation's economic development and growing prosperity.

Industrialization made the use of horses more necessary than before. Americans' desire for greater mobility led to a growing network of roads and canals, and the proliferation of stagecoach lines, freighting companies, canal boats, and ferries which used horses. However, the greatest surge in horse use resulted from railroad expansion. Steam-powered railroads, or iron horses, were only successful as part of a complementary relationship with real horses. Railroads were efficient at long-distance transport, at which horses were very inefficient, but horses were efficient for short distance transport at which railroads were very inefficient, because of having to power steam locomotives up and down. Additionally, railroads could not accomplish local delivery and transportation, requiring the use of horses to move freight and passengers away from the depot to their final destinations. Furthermore, the emerging railroad network was fragmented, composed of competing railroad companies that maintained separate rails and depots, and required horse-drawn transport to bridge the gaps between different railroads and between railroads and other modes of travel. The propensity of steam locomotives to shed sparks and explode made them a fire hazard prohibited within many cities, so that horses pulled trains from the city limits to downtown depots, and also provided the power for urban mass transit, which used horses until electrification of streetcars in the 1890s. So even as steam

railroads stimulated urban growth, horses drove the urban economy by moving passengers, freight, food and consumer goods, by powering cranes and earth movers in urban construction, and by providing power for fire protection, police, and sanitary services.

In addition to steam power, another aspect of industrialization, mechanization, contributed to the widening utilization of horses as a source of power. Mechanized factories mass-produced the equipment and vehicles necessary to use horses--plows and other farm tools, wagons, buggies, stagecoaches, horseshoes and harness—making these items abundant and affordable, and expanding the use of horses to growing numbers of Americans. Mechanized farm equipment, such as reapers and cultivators, made it possible to use horses in agriculture, replacing tedious and time-consuming hand labor. Horses could be harnessed to treadmills and capstans for pressing hay bales and other processing chores. Agricultural productivity doubled between 1860 and 1900 largely by utilizing animal power. Horses also powered machinery in lumber yards, brickyards, and small manufacturing operations.

As a result, the national horse population grew in size and changed in composition. Between 1840, the first federal census that counted horses, and the end of the century, the horse population grew six fold from four to twenty-four million—a rate of growth fifty percent greater than that of the human population. In 1840 there were about four horses for every human; by 1900 there were three horses for every human. At the same time, the very bodies of horses underwent changes. The widening array of jobs for horses created demand for specialized breeding. Before the Civil War, there were few distinct horse breeds in the United States. Apart from a few regional types such as Morgans or Conestogas, most American horses were defined by location and known as New England horses, Michigan horses, Virginia horses, etc. After the Civil War, growing importation of horses from Britain and Europe--Percherons, Shires, Belgians, Clydesdales and others--created a market for horses defined by breed, and led to the establishment of breed associations that defined each horse breed, regulated breeding, and certified the pedigree of individual horses in the manner established in eighteenth century England for Thoroughbred horses.

A birds'-eye view of the nation in the 19<sup>th</sup> and the early 20<sup>th</sup> century would show horses everywhere, but especially dense in the Northeast and Upper Midwest, the most industrialized, urbanized section of the country. Horses worked in cities, towns, and factories, on farms, canals,

streets and roads, and around ports, forts and railroad depots. They powered stagecoaches, streetcars, ferries, plows, reapers, combines, mining cars, canal boats, cranes, machines, carts, wagons, trucks, carriages, and buggies. In the industrializing society of nineteenth century America horses were indispensable as the only self-propelled all-terrain machine around. Humans have been employing horses since the fourth millennium BCE, but in the United States the nineteenth century was truly the age of horse power, distinct from centuries before and after when horses were most often military mounts or bred for elite sport and recreation. One of the unique aspects of the nineteenth century was that horse use became widespread and democratized among the middle and working classes as well as the upper class.

Horses were part of the social and material infrastructure of nineteenth century America. Just as people in the twentieth century have focused on improving the design, performance, efficiency, and speed of their motorized vehicles, people in the nineteenth century were similarly concerned with improving the design, performance, efficiency, and speed of horses. Horses were living machines that were producers and consumers, workers and residents, and this made them the object of serious attention across classes, occupations, disciplines and fields of interest, from civil and mechanical engineers, doctors, scientists, breeders, artists, farriers, mechanics, manufacturers, railroad operators, inventors, farmers, teamsters, military officers, government officials, sporting types, and veterinarians. People studied the mechanics of harnessing to transmit power more efficiently to machines and vehicles, the design of vehicles and machines to reduce friction and draft, the nature of the hoof and the design of horseshoes to improve traction, the construction and paving of roads, the nutritional benefits of different kinds of hays and grains, and horse afflictions and medical care.

The Fairman Rogers collection reflects the importance of horses in the nineteenth century and the breadth of interest in horses by nineteenth century Americans. Rogers himself took an active role in constructing the social and material infrastructure of Philadelphia and mid-century America. He was born in Philadelphia in 1833. In 1853, at age twenty he graduated Phi Beta Kappa from the University of Pennsylvania in engineering. Two years later he joined the University engineering faculty. During the Civil War, he served with the Pennsylvania militia, saw battle at Antietam and Gettysburg, and worked on the survey of the Potomac with Alexander Dallas Bache. Rogers was early recognized for his scientific abilities, admitted to the American

Philosophical Society at age twenty-four, and in elected by the U.S. Senate as one of the first fifty members of the newly established National Academy of Science at age thirty. He lectured and published on engineering topics, and served as a lecturer at Harvard. In 1871, he resigned from the Penn faculty to become a trustee of the University. He was approached to become Provost in 1880 (which he declined in favor of George Pepper) and helped found the School of Veterinary Medicine in 1884. In 1886, Rogers retired from public life and lived in Europe for the remainder of his life, dying in Vienna in 1900.

In many ways he was the quintessential upper-class Philadelphian of his time. Rogers resided on Rittenhouse Square, and maintained a summer home in Newport, Rhode Island. He was a founder or member of many of the most important Philadelphia institutions. In addition to the American Philosophical Society, he was a member of the Academy of Natural Sciences, president of the Pennsylvania Horticulture Association, a director of the Academy of Fine Arts, and a founder of the Saturday Club, which later became the Union League. Rogers was a horseman with a reputation that extended beyond Philadelphia to Britain and Europe. He was a member of The First Troop of Philadelphia City Cavalry, and founded the Rose Tree Hunt Club west of the city. In Britain he rode with several prestigious hunts, and he helped introduce polo to the United States. He was possibly the first in Philadelphia to own and drive a four-in-hand coach, and at his death in 1900 had just completed his magisterial *A Manual of Coaching*, which is alleged to have never gone out of print.

Fairman Rogers was a Renaissance man, interested, it appears, in *everything*: engineering, science, magnetism, horticulture, landscape architecture, mechanical invention, fine art, human and veterinary medicine, horse breeding, education, surveying, photography, steam engines, and yachts. In contemporary parlance he would probably be known as an “early adopter” of new technologies. Rogers was an exemplar of the inquisitive, optimistic, forward-looking Victorian. His interests in horses, horse breeding, and horse sports overlapped with many of his other interests. The most obvious example is his role in the founding of the veterinary school at Penn. There were very few trained veterinarians in the United States until mid-century, and all of them had studied abroad because there were no veterinary schools in the United States until after the Civil War. The Penn School of Veterinary Medicine was one of the first ones to be founded in the postbellum period, and of those is one of the few that still exists

from that time. Rogers and a group of like-minded friends on the Board of Trustees pushed to establish the school. In preparation, Rogers persuaded a friend from Rose Tree, a young doctor named Rush Shippen Huidekoper who had just graduated from the Penn medical school, to attend the National Veterinary School of Alfort in France to obtain a veterinary degree, with the promise that on his return he would be the first Dean of the new veterinary school. Huidekoper presided over the opening years of the school from 1884 to 1889. The founding of the veterinary school engaged Rogers' interests in horses, medicine, science, education, engineering and architecture, as well as his loyalty to Penn and his commitment to the dynamic expansion the university experienced during the 1880s under Pepper's leadership.

Rogers' commissioning of a painting by Thomas Eakins, *A May Morning in the Park*, reveals how his interests in horses converged with his interests in engineering, photography, and art. Philadelphia was an important center of photographic innovation in the late nineteenth century and Rogers was an avid amateur photographer. Influenced by the first photographs of Edward Muybridge, who succeeded in capturing horse motion on film using the latest in photographic plate technology, Rogers wanted a painting that would convey the actual motion of his four coach horses. Through his involvement with the Academy of Fine Arts, Rogers had become a patron of Thomas Eakins. Eakins knew of Muybridge's work and was like Rogers an avid photographer who frequently used photographs to plan out his paintings. This particular work of Eakins, also known as *The Fairman Rogers Four-in-Hand*, was controversial at the time for its revolutionary depiction of the position of the horses' legs. Over the years, popular familiarity with photographs of actual horse locomotion resulted in the painting being seen as realistic rather than revolution, and *A May Morning in the Park* has become one of the classic paintings associated with Philadelphia.

Rogers also combined his interests in horses with his interests in photography, medicine and engineering when he was able to bring Muybridge to the University of Pennsylvania in 1884. Housed in a studio on the grounds of the medical school, Muybridge produced his landmark photographic studies of animal and human locomotion over the next twelve years. Among them were many studies of horses, some of which were done at the veterinary school. One of the most famous shows Dean Huidekoper, sometimes fully clothed, and sometimes discretely nude, riding

and jumping his favorite mare Pandora. Another series studies the motion of lame horses, to expand veterinary understanding of diagnosis and treatment.

Roger's book, *A Manual of Coaching*, blended a lifetime of experience with horses, an engineer's mind and an artistic sensibility with his renowned expertise in the difficult art of driving a four-in-hand coach. The first ten chapters cover the history of coaching, and the mechanical operation of a horse-drawn vehicle. There is an entire chapter on distribution of weight, center of gravity and centrifugal forces, and another chapter on draft as affected by axles, wheels, road surfaces and horse locomotion. There are three chapters on harnessing, and eight chapters on different aspects of driving. Many contemporary books on coaching and riding are upper-class how-to manuals, but apart from a chapter on correct appearance in terms of servants and apparel, this is a serious technical about working with horses.

The Fairman Rogers collection contains a wealth of information about the nineteenth century horse world. Since Rogers was an upper-class horseman, the collection is not entirely representative of that horse world but reflect his own interests. There is a great deal about horse sports, and many British sporting magazines. There is very little about working horses, the vast majority of the American horse population. However, there are many books on horse care and on especially shoeing, which was then as now a hotly contested subject among horse users and horse shoers. It is possible to study the changes in nineteenth century veterinary medicine and science through the medical books in the collection. As an engineer, Rogers appreciated works that applied scientific principles to all aspects of horse use, and the collection contains many books that can be read to understand how nineteenth century people viewed horses as machines or technology. The collection contains classic works on horses from the early modern period, and also works in French and German, reflecting Rogers's travels and cosmopolitan interests.

Despite his prominence in Philadelphia during the nineteenth century, Fairman Rogers has become somewhat invisible in history. Apart from the public facts of his life, as a person he is something of a mystery. The university possesses no personal papers apart from a few handwritten notes and some published lectures, nor does an archive of such materials exist elsewhere. The *Manual of Coaching* contains no introduction or conclusion that might provide some insight into his personal character. Nor does the existence of a book collection (or any

collection) necessarily reflect who a person is. However, the collection remains significant for its rich resources into the nineteenth century horse world. Rogers might be rather surprised to find that such a vital, complex and important world had been largely overlooked, but his collection of books enables historians to reclaim this aspect of our national history. More broadly, for historians not specifically interested in horse-related matters, the Fairman Rogers Collection contains important materials about the social, cultural and material landscapes of nineteenth century America.