Chapter Seven

Animals and Enterprise

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If a roof had been built over the southern plains in the early 1870s, the American zoologist William Hornaday wrote, it would have been "one vast charnel-house." During the fall of 1873 the corpses, stinking and rotting in the sun, lay in a line for forty miles along the north bank of the Arkansas River. William Blackmore, an English traveler, counted sixty-seven bodies in a space not covering four acres. The bodies were those of bison. They died in such numbers and so close together because if a hunter got properly downwind, if a bluff partially concealed him, and if his luck held, he might shoot, reload, and shoot, again and again and again, without the animals stampeding.

In 1872 George Reighard had left Dodge City for the Texas Panhandle with "a buffalo-hunting outfit." He killed, or so he remembered, an average of one hundred bison a day. He killed the bison for the "hide and the money it would bring." Asked, years later, whether he felt pity for the animals as day after day he dropped his hundred, he replied no, he did not. "It was a business with me. I had my money invested in that outfit . . . I killed all that I could."

Money and pity, these are the words that mark a great divide in the history of the American West. Reighard stood at a point where animals were only dollars on a hoof; those who later asked him about pity regarded animals as being worthy of concern within a human moral universe. But for all their differences, those who saw animals as commodities and those who saw them as objects of sentiment stood on the same side of a cultural divide. On the other side was a world in which animals were persons and pity was the sentiment that animals felt toward humans. This earlier West appears to us now at once recognizable and utterly strange. Remembering it, we may feel like Dorothy remembering Oz. Because once, when animals were persons, the West was a biological republic.

For many Native Americans, animals formed the bridge by which humans tapped supernatural powers. Working at Fort Union in 1832, Pennsylvania-born artist George Catlin painted this Blackfoot medicine man cloaked in the skin of a grizzly bear, whose strength gave power to the healing ceremonies.

George Catlin (1796–1872). Medicine Man Performing His Mysteries Over a Dying Man. *Oil on canvas, 1832. National Museum of American Art, Washington, D.C./Art Resource, New York, New York.*

It was Indian peoples who had made animals other-than-human persons with whom relationships were social and religious instead of purely instrumental. Indians, like all other humans, certainly sought to order and control the natural world, but the order they constructed was a social order, and control partially came through what amounted to religious negotiation. Indian religions made hunting holy and gave human-animal relations a depth and complexity largely lacking among Europeans. In hunting, some persons died so that others might live. Ceremonies preceded the kill. Animals consented to die; they, or more powerful beings—holy people, keepers of game, or other supernaturals—pitied the hunter and instructed him in the rules and rituals necessary to kill them. Indians killed game as much by prayer, pleading, and reverence as by the arrow or spear. They recognized the obvious wariness of game and the reluctance of animals to die, but they explained it in terms of previous ritual abuse by humans or even supernaturals. The difficulty of obtaining the consent of animals only made strict observance of hunting rituals all the more necessary.

Europeans brought to the West a far more instrumental view of animals, and they brought new animal species that had evolved as instruments of human purposes. Europeans regarded their domesticated animals as sentient tools, and on the basis of utility, they classified them as superior to the native wild fauna. They recognized that their horses, sheep, goats, cattle, burros, and smaller stock gave them an advantage over Indians, for the native North American biota (the continent's native animal and plant life) lacked suitable candidates for domestication. Western Indians had domesticated only the dog and, in the Southwest, the turkey.

Europeans and Indians both linked the success of human endeavors to the biological success of at least some animals, but it was Europeans who made the measure of success commercial and who, like Reighard, could see their own commercial success as tied to the virtual destruction of entire species. Animal persons yielded to animals of enterprise, which gleaned the energy of western ecosystems (the interacting species and the nonbiological environments of the West) to produce hides, meat, and wool that found markets all over the world. Animals ceased to be creatures of a limited set of adjoining ecosystems and became instead, as the historian Alfred Crosby has noted, movable creatures of the biosphere (the entire planetary system that sustains life). By the close of the nineteenth century, human masters took tribute from subject animals and determined their fate. Animals not subject to humans had become, in effect, enemies.

The transition did not come easily or smoothly, and the animals of enterprise themselves, in a sense, rebelled. Without domesticated animals, Europeans would have neither survived nor conquered, but their animals often proved fickle allies. Indian peoples too enlisted the aid of horses, sheep, and cattle. And some domestic stock, disregarding both Indians and Europeans, went wild, turning against their masters' purposes. All of this greatly complicated the history and the mental and physical landscape of the West.

The horse, more than any other animal, exemplified the unpredictability that domesticated livestock introduced into the West. Horses became tools of Indian resistance as well as of European conquest. Horses became persons who entered the visions and dreams of Plains Indians. Among native peoples, the horse greatly increased the efficiency of nomadic hunters and the mobility of raiders. Along with the exotic diseases brought by Europeans, horses shifted the balance of power away from settled horticulturalists—both Indian and Hispanic—and toward nomadic hunters. The horse helped create the flourishing nomadic culture of the Great Plains.

Indians spread horses rapidly and widely across North America. West of the Rockies, they transported the animal to the Snake River valley by 1700 and the Columbia Plateau by 1730. East of the Rockies, the horse reached the central Great Plains by the 1720s and western Canada by the 1730s. Its distribution among Indians of the Pacific Coast was spottier, but by the 1770s the Yokuts of the central valley in modern-day California had adopted horses, and in the Pacific Northwest, Yakimas

introduced horses among villagers living in the small prairies on the western foothills of the Cascades. Indians used horses for transport, war, hunting, and more rarely, food. For most groups, a life without horses became unimaginable.

Cattle and sheep did not spread so far or so fast. The Papagos moved from hunting semiwild cattle to herding them; refugee Indians from the East brought livestock with them; and in the early nineteenth century, some groups on the Columbia Plateau became cattle raisers. Before the reservation period, however, most western Indians remained raiders, not ranchers. They plundered Spanish, Mexican, and later American herds. The Apaches, in particular, regarded Spanish and later Mexican herds as virtual supply depots to be tapped at will.

Only the Pueblos and Navajos quickly adopted sheep and cattle. The Pueblos began raising sheep, horses, and cattle in the seventeenth century. The Navajos started as did conventional Apache raiders, preying on the Spanish and the Pueblos. But they quickly became livestock raisers, looking after their sheep, in the words of one Spaniard, "with the greatest care and diligence for their increase." At the end of the eighteenth century the Spanish regarded Navajo herds as "innumerable," and the Navajos found themselves targets of Spanish and Ute raids. As sheep and goats became critical to Navajo subsistence, these animals, like horses, bridged the gap between wild animal persons and domestic animal tools. Navajos regarded sheep and goats as metaphorical mothers and fathers because they sustained life. They were thus loved and identified with the family even as they were killed and regarded as wealth.

It was through raiding, which marked the movement of animals from European to Indian control and back again, that some animals escaped human control entirely. Feral horses and cattle appeared on the margins of human settlements. Not all species of introduced livestock could seize the opportunity to go wild. Domestication had given sheep, even the *churros*—the tough sheep of the southwestern borderlands—too great an inventiveness in finding ways to die. Although hardy and able to withstand drought, sheep could not live without shepherds. By themselves, they could not find water or feed. They died from poisonous weeds, and they could not resist even the most inept predators.

Cattle and horses did go feral, but their populations remained localized, growing as it were from seed animals that Indians and white migrants planted. The mustangs of Texas and other wild horses of the West developed from strays left by raids and from animals abandoned as lame. Wild horses were most numerous in Texas, but there were also significant wild horse populations along the Snake and Columbia rivers and in the San Joaquin Valley of California. There were relatively few wild horses on the northern plains or in the Rocky Mountains before 1800. They did not appear in Nevada, their present-day stronghold, until the transcontinental migrations of the 1840s. At their nineteenth-century peak, only an estimated two million horses grazed between the Rio Grande and the Arkansas River, with perhaps another million in the rest of the West. True wild cattle, as distinct from unbranded stock, had an even more confined range and fewer numbers. Into the nineteenth century, feral Criollo cattle from mission herds remained largely limited to East Texas and the lands around the Arizona missions. After several generations in the wild, they could not be redomesticated. They could only be hunted.

The introduction of new species and their spread created sweeping and significant changes, but these changes still lay on the other side of the great nineteenth-century divide. Western animals had not yet become animals of enterprise. Animals of enterprise are commodities; their value is exchange rather than use. For both Navajos and *nuevo mexicanos*, for example, the *churro* remained primarily a subsistence animal. A full-grown *churro* dressed out to only seventeen pounds of meat, less than a modern lamb, and yielded only about a pound of wool. Such small yields were commercially unacceptable, but they were not liabilities when fresh meat had to be consumed quickly to avoid spoiling. Similarly, *churro* wool (actually closer to hair) was meager but ideally suited to hand spinning.

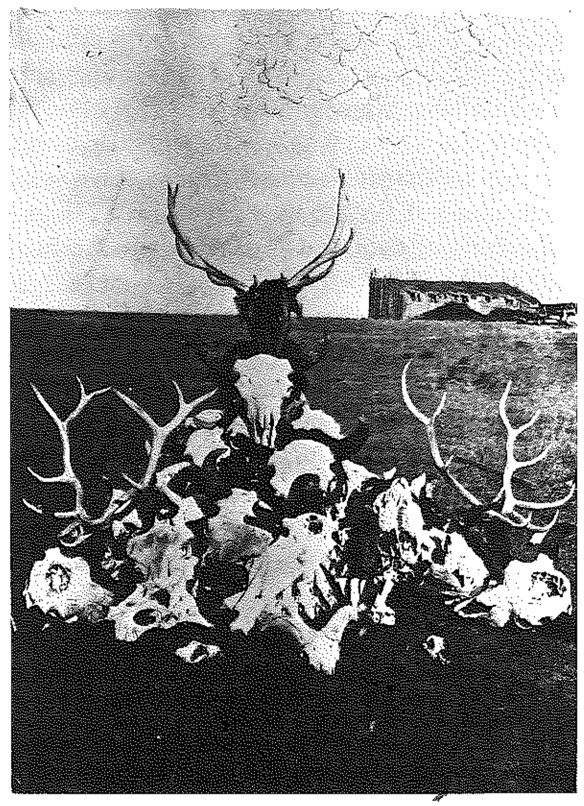
In a world where social relationships took precedence over economic relationships, commerce took a backseat to other forms of exchange, and such exchanges dominated the transfer of livestock. Indians stole livestock from their enemies, but they gave livestock freely as gifts to friends or relatives. Trade lay in the originally limited region between these extremes; it was a way to seek advantage among those who were not friends but also not clearly enemies. Commerce was thus a form of sublimated theft, and as such, it often shaded easily into outright theft. Plains Indians traded horses at the Mandan and other Missouri River villages, but given the opportunity, traders would quickly turn into raiders. The subtleties of an exchange where the goal was to accumulate wealth at the expense of others and to profit by others' need, but where outright theft was forbidden, were lost on many Indians. And livestock, by its very nature, invited theft. Large domesticated grazers were a plunderer's dream, for unlike all other forms of property, these would gallop off with an insistent thief. Raided by Indians, the Spanish and later the Mexicans raided in turn.

Livestock raiding and its companion, slave raiding, became deeply entrenched in the Southwest and on the Great Plains. The Spanish and later the Mexicans raided and traded for Navajo, Apache, and Pawnee slaves; the Navajos and Apaches took Spaniards and later Mexicans as slaves in turn. In Texas the herds of the missions on the Rio Grande and farther north around La Bahia and San Antonio de Béxar provided inviting targets; first the Apaches, then northern villagers ("los norteños"), and finally the Comanches preyed on these herds. Ute, Apache, Comanche, and Navajo raiders struck deep into the heart of New Mexico, repeatedly devastating sheep herds; in the 1760s the Comanches virtually stripped New Mexico of horses. By the 1840s, Yokut and Miwok horse raiders from the interior had crippled many Mexican ranchos in California, aided by the Indians living on the ranchos.

Under such conditions, cattle, horses, and sheep only slowly emerged as animals of enterprise. The first step in this direction came when they began to serve as capital among both Indians and Hispanics. In eighteenth- and nineteenth-century New Mexico, sheep raising took place on the *partido* system. Sheep essentially became capital lent at interest. The owner (banker) of the sheep turned over a certain number of ewes (capital) to the *partidario* (borrower), who agreed to make set annual payments of wool and lambs, usually 20 percent of the original head count (interest). Eventually, the contracts specified responsibility in case of losses to disease, lightning, and Indian raids. If the *partidario* could realize a return greater than the interest that he paid the owner, he

By the late 19th century, the animal skulls holy to Plains Indian tribes had become for American military troops mere monuments to slaughter.

Karl Bodmer (1809–93). Assiniboin Medicine Sign. *Watercolor on paper, 1833. Gift of the Enron Art Foundation, Joslyn Art Museum, Omaha, Nebraska.*



William Henry Jackson (1843–1942). A Collection of Buffalo, Elk, Deer, Mountain-Sheep, and Wolf Skulls and Bones Near Fort Saunders. *Photograph, 1870. United States Geological Survey (Jackson, W.H. 348), Denver, Colorado.*

profited and could establish his own flock. If he failed, he sank into debt and lost his collateral—land, if he had any, or if not, his own labor. *Partidarios* hoped the arrangement would lead to wealth and freedom, but it often led to poverty and peonage, a form of debt slavery. Sheep owners, on the other hand, succeeded in transferring part of the risks to the *partidarios*, solved their own labor problems in a cash-short economy, and freed themselves from active management of the herds.

Partidario arrangements involved little buying and selling of animals, but livestock gradually became commodities used to acquire other commodities. Comanche and Apache raiders turned easily stolen livestock into more difficult to steal European manufactures by trading what they had stolen. In the nineteenth century, the Yokuts and Miwoks traded stolen California horses to American mountain men and New Mexican adventurers, who drove the horses east to New Mexico and Missouri.

Until the late eighteenth and early nineteenth century, commerce per se remained more an incidental outcome of livestock raising in New Mexico, Texas, and California than a rationale. Indeed, in eighteenth-century New Mexico the governors, fearful of losing breeding stock, placed substantial restrictions on trade in sheep, ordering that only wethers (neutered rams) be sold in the mining towns of Nueva Vizcaya and occasionally forbidding the export of any live animals. Textiles woven from the wool of *churros* remained more important than the direct sale of sheep.

Only in the late eighteenth century did reforms in the Spanish empire and relative peace with the Indians create a commercial boom in sheep raising. By then the *partido* system had concentrated the wealth in the hands of relatively few interrelated families. Large sheep owners became *comerciantes*, rancher-merchants who developed a trade with Chihuahua, Nueva Vizcaya's leading commercial and mining center. By the 1790s, sheep drives had become an annual event as New Mexicans sent roughly twenty-five thousand head of sheep south each year in large caravans guarded by soldiers against the Apaches. Both farmers and *partidarios* were in debt to the *comerciantes*, and the *comerciantes*, in turn, were usually in debt to the merchants of Chihuahua. Only a few *comerciantes* escaped this chain of debt and became *ricos*—the richest tier of New Mexican landowners and merchants. Clemente Gutierréz, born in Aragon and married well in New Mexico, used the *partido* system and the Chihuahua trade to make himself the most powerful of the New Mexican *ricos*. Sheep delivered wealth and power into his hands; he and the other *ricos* dominated New Mexico's economy and politics.

This commerce in sheep, however, remained at the mercy of war and theft. It collapsed in the years of turmoil that led to Mexico's independence. After the revolution, exports resumed, and by 1835, New Mexico was sending eighty thousand sheep south. New Mexican sheep, marketed in Durango, found their way deep into the interior of Mexico, until the Mexican War and the American conquest of New Mexico finally aborted this trade.

The California gold rush redirected New Mexican sheep away from Old Mexico and to the new markets provided by the California mines. Even after the early boom prices in the mines declined, sheep drives continued. In 1858 one hundred thousand New Mexican sheep went west into California. Only the growth of California flocks, to nearly three million head by 1870, closed the California market.

In Texas, the early development of commercial livestock raising was far slower and less successful. Between the 1750s and 1810, ranchos developed in three distinct areas of Texas: between the Rio Grande and the Nueces River (then part of Coahuila and Nuevo Santander), on the San Antonio River, and finally, on the Louisiana border near Nacogdoches. It was on these ranches and on the missions that many of the practices of later western cattle raising evolved. The first Texas cowboys were Indians. When not restricted by raiders, these vaqueros conducted annual roundups to gather and brand free-ranging cattle of the mission herds.

But Texas cattle never quite became full-fledged animals of enterprise during the Spanish era. Indian raids often kept missionaries and ranchers from conducting roundups to brand their cattle. Ownership of these unbranded cattle remained in constant dispute, and they became an irresistible temptation to meat hunters (*carneadores*), soldiers, and, later, soap makers, all of whom slaughtered the unbranded cattle with incredible waste. What was commerce and what was theft remained a matter of considerable disagreement. To make matters worse, legal markets remained limited largely to sales to the king's presidios in Texas and to the south. Burdensome regulations made the transport of cattle to markets in Coahuila and Louisiana difficult and often illegal. This taint of smuggling, plus the endless disputes over the ownership of the unbranded animals, continued to give ranching an aura of criminality. As the slaughter of unbranded stock reduced the once abundant herds, the rancheros turned to gathering and exporting the wild mustangs that also abounded on the range. By 1796, mustangs had supplanted cattle as the province's chief export, until the bloody struggles in the province before the Mexican Revolution stymied the growth of all commerce.

In terms of cattle raising, *californios* succeeded where *tejanos* failed. California missionaries had the good fortune of having a ready market appear virtually at their doors in the form of American and British trading vessels, which arrived to collect hides and tallow—the rendered fat used for candles. Neophytes—the baptized Indians of the missions—and vaqueros working for private ranchos slaughtered the cattle, left the meat to rot, and took away the hides and tallow. After the Mexican government secularized the California missions between 1836 and 1842, much of the mission property intended for the Indian neophytes ended up in the hands of rancheros. The mission herds that had once numbered 150,000 head of horses, sheep, and cattle dwindled to 50,000. The remainder had been slaughtered and sold. The rancheros no longer had to share the trade with the missions.

Fur Trade

By the time New Mexican sheep and California cattle succeeded in becoming full-fledged animals of enterprise, a select group of wild animals had also fallen victim to commodification. To be sure, a small trade in products of the hunt had long existed out of Taos and Pecos. Some hides and buffalo robes traded there continued south, finding an ultimate market in Mexico. Much farther north, at the Mandan villages and Wichita villages, Plains Indians had also bartered deerskins, antelope hides, buffalo robes, and dried meat for corn, beans, and other produce. By and large, these remained local exchanges that disposed of small surpluses gained during normal subsistence activities.

It was not production for the market per se. The large-scale commodification of wild animals emerged only in the late eighteenth century. Even then it affected few species—buffalo, beaver, and sea otters. For these species, however, the results were so dramatic that within a relatively few years, each faced extinction.

In the commodification and killing of wild animals for their furs, two different cyclical patterns met. One was natural. The turning of the seasons made beaver fur and bison wool grow thick in the winter. As long as consumers desired beaver for felt to make hats and bison for wool to make robes, the seasons shaped the hunt. The other pattern was economic and far less regular. On the world markets of emergent capitalism, prices fluctuated, and this cycle too shaped the fate of the animals selected for enterprise. Yet even as human beings conformed to the patterns that nature and the market imposed, they also struggled against them. Producers found new technologies that allowed hatmakers to use lower grades of beaver, and tanners found uses for summer-killed buffalo. The large companies that came to dominate the fur trade unsuccessfully sought monopolies that would allow them to avoid, as much as possible, the cycles of the market.

No animal suffered as rapid a subjection to the market and as rapid a destruction as the sea otter. Sea otters congregated in rafts or schools of up to one hundred animals along the northern Pacific rim from Hokkaido to Baja California. Russian fur traders, lacking the skill to take the animals themselves, virtually enslaved Aleut and Kodiak Indians to hunt the otter during the spring and early summer. They shipped the fur to China, where mandarins prized it for hats and as a trim on their garments. The British somewhat accidentally opened their own direct trade with China in 1778 when British sailors of Captain James Cook's voyage of discovery purchased fifteen hundred otter skins from Indians at Nootka Sound on Vancouver Island. The sailors intended to use the pelts for clothing on their northern voyage, but in China they discovered that, as one sailor said, "skins which did not cost the purchaser six-pence sterling sold . . . for 100 dollars."

The promise of fortunes to be made in the sea otter trade brought English merchantmen sailing to the coast in Cook's wake. The Englishmen, the Russians pushing south from Sitka, and the even more numerous Americans who traded with the Indians for skins from the Pacific Northwest south to California brought the animal to the brink of extinction. As guns replaced bows and arrows in the hunt, otters became increasingly vulnerable. The number of sea otters traded in Canton began dropping early in the nineteenth century. The otter population was badly diminished by the 1820s; by the 1850s, the sea otters had nearly vanished.

It took time for the mainland fur trade to duplicate this pattern of overhunting and near extinction. The western fur trade in beaver and buffalo was an extension of a much older trade that had begun in the East and that had depended on Indians to procure the furs. The French pushed this trade west of the Missouri during the eighteenth century. The dependence of the traders on free Indian labor initially acted to slow the destruction of furbearers, since the Indians of the prairies and plains gave primacy to subsistence hunting over fur trapping. Indeed, many mounted Indians disdained beaver trapping and would engage only in buffalo hunting.

The reluctance of Indians to become wholehearted partners in the slaughter that the traders contemplated had as much to do with the Indians' ideas of a proper economy as

Without the labor of Blackfeet women, the buffalo hides secured by Blackfeet hunters had no value.

Walter McClintock (1870–1949). [Blackfeet Woman] Tanning a Skin—Fleshing a Hide. *Photograph, ca. 1900. Courtesy of the Southwest Museum (#N.36397 MCC.334), Los Angeles, California.*

with their ethical beliefs about animals. For Indians, the proper ritual treatment of animals remained essential; as long as hunters killed animals in an appropriate manner, ritually honored the animals, and took game only to fulfill their own legitimate needs, Indians believed animals would return. Because most Indians regarded killing for exchange as a legitimate activity, religion did not offer a significant ideological obstacle to the trade. Indians often interpreted diminishing game in terms of improper treatment rather than overhunting. Thus when the buffalo finally disappeared from the plains, the Sioux did not view their demise as permanent nor the cause as biological. The buffalo had, they believed, gone underground because whites had killed the animals with disrespect. The buffalo would return when Indians could ensure that the animals would receive proper ritual treatment.

Indians could thus, in good conscience, hunt animals even as those animals grew less and less numerous. Yet most Indians did not kill as many animals as they could have because their wants remained limited. The demand for goods and wealth is cultural, and wealth among western Indians took quite specific terms. Horses or medicine bundles were forms of wealth sought by members of many Indian groups. Both the Northwest Coast Indians and the Navajos equated wealth and status, but maintaining status involved the redistribution of accumulated wealth. Most Indians, however, sought only limited amounts of white trade goods. Having met their immediate and limited necessities, they often refused to engage in further hunting. And when they did face shortages, "begging" (asking aid of friends or kinspeople with more than enough to share) or stealing (seizing goods from enemies) seemed to them just as appropriate as engaging in further hunting.

This common Indian refusal to accept European premises of a proper economy led white traders to complain constantly of the capriciousness of Indian hunters, the "laziness" of Indians, and the difficulty in collecting debts. The huge paper profits the trade generated often dwindled beneath the heavy overhead of gifts and the losses to accident and theft. Traders compensated by resorting to alcohol to stimulate greater demand and thus more hunting. Traders themselves dealt in stolen furs, and they favored those Indians who did seek to accumulate wealth, for whatever reason.

The trade thus brought economic and social changes in Indian societies, and these changes increased the impact of Indian hunters on game populations. Among the Blackfeet, a complex brew of material, social, and ideological factors increased their involvement in the British (but not the American) fur trade. In the nineteenth century, Blackfeet chiefs, already distinguished by their wealth in horses, became notable for the number of their wives. A man with many horses could use them to acquire wives or female slaves taken in raids. Because of the gendered labor system of the plains, multiple wives were necessary to process the buffalo hides into robes. A woman could, on average, process eighteen to twenty robes in a winter, and the more wives a man possessed, the more finished robes he accumulated, since a single mounted hunter could kill more buffalo than a single woman could process. Indeed, buffalo hides were useful to a man only if he had wives to process them. Robes, in turn, became critical for chieftainship, for robes obtained the trade goods that chiefs increasingly needed for the gift giving that demonstrated their generosity and maintained their following.

It was women rather than men who made the production of buffalo robes a virtual Indian monopoly before the Civil War. White men could slaughter buffalo, but they could not process robes. By 1840, commercial production had reached about ninety thousand robes a year on the northern plains, and trade robes represented about 25 percent of the total buffalo kill of the plains. The work of Indian women also allowed Indians on the Canadian plains to control the production of pemmican—the mixture of buffalo meat, fat, and berries that formed a basic foodstuff for trappers in the beaver trade.

The production of pemmican linked the work of women to the trade in beaver pelts, but by the early nineteenth century, the work of western Indians, both men and women, was becoming less and less critical to the trade. With western Indian hunters unwilling to supply sufficient furs, white and eastern Indian hunters and trappers replaced them. Operating from fixed posts, American fur-trading companies on the Missouri River had begun to dispatch parties of white men to trap beaver. On the Pacific coast, the Hudson's Bay Company, which had incorporated the earlier North West Company, also used white and Iroquois trappers organized in fur brigades to supplement the Indian trade. A major innovation in the trapping came in the mid-1820s when William Ashley, driven off the Missouri by Arikara attacks and unable to persuade Indians in the central plains to trap on the scale he desired, persuaded his white trappers to stay permanently in the mountains. Ashley sent a supply train to annual rendezvous, where trappers and Indians exchanged furs for supplies and engaged in an extended bacchanal. Because processing a beaver pelt demanded far less skill and labor than processing a buffalo hide, even white trappers who lacked Indian wives or lovers could ready their own catch for shipment. This eliminated the production bottleneck that limited the trade in buffalo robes.

The Rocky Mountain trappers who gathered at the annual rendezvous fell into three broad categories: *engagés*, men supplied and salaried by a fur-trading company; skin trappers, the sharecroppers of the fur trade who operated on credit advanced by a company; and finally free trappers, the small entrepreneurs of the trade who sold their furs to the highest bidder. For all of them, trapping was hard and extraordinarily dangerous work. Trappers may have had the common entrepreneurial ambitions of Jacksonian America, but few other Jacksonians so regularly risked their lives as well as their capital. The lucky ones lived, but they often ended up, in the words of Nathaniel Wyeth, who organized an unsuccessful fur company, "mere slaves to catch beavers for others." The real profits went to the large companies that organized production or brought goods west. These companies would maintain the so-called Rocky Mountain Trapping System, in one form or another, until 1840.

The southern Rockies spawned a final variant on the trade. This was the domain of free trappers who operated, usually illegally, out of Santa Fe and Taos. Kit Carson and other Anglo-American, Franco-American, and Mexican trappers methodically moved through the southern Rockies, stripping the streams of beaver and shipping their furs east along the Santa Fe Trail. After depleting the southern Rockies of beaver, they found themselves unable to compete with the more efficient rendezvous system of the central Rockies.

Between 1820 and 1840, these branches of the trade battled each other, and their contest destroyed the beaver over much of the West. At the height of the beaver trade in 1832, the Missouri and Rocky Mountain systems deployed perhaps one thousand trappers, the Hudson's Bay Company provided another six hundred, and a smaller number of free trappers worked out of Taos. Two large companies came to dominate the fray: the American Fur Company and the Hudson's Bay Company. Each combated its competition as ruthlessly as it slaughtered beaver. The Hudson's Bay Company created a fur desert along the Snake River to stop the progress of American trappers into its stronghold, the Oregon country. The American Fur Company sent its parties to tail those of its competition in the northern and central Rockies. Each side rushed to trap out the streams. Only the Blackfeet country, where the Indians maintained their long-standing animosity to American trappers, retained significant beaver populations.

Sea otters and opium, in an odd way, saved the surviving beaver from slaughter. Sea otter pelts and opium allowed American and European merchants to acquire Chinese silk without expending valuable silver, and by 1833, silk hats had begun to replace beaver hats on fashionable heads in both the United States and Europe. The demand for beaver dropped, prices fell, and the beaver trade went into a precipitous decline. By 1840, it had largely ended. Although substantial, the destruction brought by the mountain men was limited in an important sense: they had destroyed only animals and not habitat. Given a respite, beaver populations staged a recovery in the 1840s and 1850s, only to decline again later in the century from part-time trapping by miners and other western workers and from habitat destruction.

The buffalo, or more properly the North American bison, was the last furbearer to suffer near extinction, and its fate is at once the most instructive and the most mysterious. It is instructive because the buffalo died as an industrial animal rather than as an animal of fashion, like the beaver or otter. The discovery that buffalo hides could be turned into a cheap leather suitable for making machine belts, together with the expansion of the railroad network across the West after the Civil War, sealed the bison's fate. No longer did hunters have to hunt bison in the late fall or winter when robes were full; no longer did Indian women have to painstakingly process hides; and no longer did traders have

Albert Bierstadt's monumental painting reflected a scientific interest in the fate of the buffalo, as well as a widespread belief that the animal—like his Indian pursuer—was a symbol of a vanishing West.

Albert Bierstadt (1830–1902). The Last of the Buffalo. *Oil on canvas, ca. 1888. Gertrude Vanderbilt Whitney Trust Fund Purchase, Buffalo Bill Historical Center, Cody, Wyoming.*

to rely on river transport or wagons to move robes to market. Both the seasonal and the Indian bottlenecks on production vanished. Now white hunters could kill buffalo at any season and transport the hides to market on the railroads.

Against Indian resistance, professional buffalo hunters moved onto the southern plains in the early 1870s. The southern hunt peaked between 1872 and 1874. In all, the hide hunters took an estimated 4,374,000 buffalo during these years. To this has to be added the Indian kill of approximately 1,215,000 on the southern plains during this same period, as well as the smaller number of bison killed by settlers and sportsmen. In the 1870s, Congress passed a bill protecting the bison, but President Ulysses Grant vetoed it.

The efficiency of the killing was coupled with a staggeringly inefficient use of the carcass. Virtually all the meat rotted. Some hunters initially did not even know how to skin the animals properly, and they thus wasted the hides. Other hunters killed more bison than they could skin. Contemporary sources estimated that at the peak of the hunt in 1872, three to five buffalo were killed for each hide that reached market. By 1875, the southern herd had largely ceased to exist.

The destruction of the smaller northern herd came later. In 1876 the Northern Pacific Railway reached Bismarck, North Dakota, and began pushing its tracks west into the buffalo country. That same year, the American army began the campaigns that broke Sioux control of the northern plains. In 1880 the assault on the northern herd began in earnest. By 1882, there were an estimated five thousand white hunters and skinners at work on the northern plains; by the end of 1883, the herd had vanished. The slaughter was so thorough and so quick that not even the hunters could believe what they had done. In the fall of 1883, many outfitted themselves as usual. But there was nothing to hunt except piles of bones bleaching in the sun and wind.

The causes and mechanisms of the final slaughter are thus obvious and instructive.

What is mysterious about the fate of the buffalo is that a precipitous drop in bison numbers appears to have occurred in the decades *before* this slaughter, and neither the number killed by Indians nor the early fur trade can account for it. Only quite recently have historians begun to unravel this mystery. Bison numbers on the plains probably peaked at about twenty-five million, well under older estimates. And it now appears that bison were in trouble by the 1840s not so much from overhunting, although this was increasingly a factor, as from a combination of drought, habitat destruction, competition from exotic species, and introduced diseases. During droughts, such as the one that struck the southern Great Plains in 1849, bison had to compete with Indian horse herds and wild mustangs for food and water in critical riverine habitats. At the same time, livestock taken by Indian raiders and cattle driven across the plains by white migrants introduced tuberculosis and brucellosis to the buffalo herds. The expansion of trails through the plains and the settlement of whites along the edges of the region drove the bison from the peripheral habitat on which they had depended as refuges from drought and hunting. The result was a buffalo population already unable to maintain its numbers when the white hunters struck.

The wholesale slaughter of the buffalo eventually abated from a lack of targets, but killing continued for a while on a retail basis with hunters, like the young Theodore Roosevelt, who rushed off to get a trophy before it was too late. Others, however, sought to save the pitiful remnants of the species. Some ranchers started private herds; William Hornaday, of the New York Zoo, organized the Bison Society; and George Bird Grinnell, the editor of *Forest and Stream*, worked to protect the small group of bison in Yellowstone from poachers. The buffalo moved from being a commodity to a symbol of the American West, gracing American coins and exhibited in Wild West shows. Such symbolic status became the last refuge from extinction open to some species whose uniqueness, size, and power allowed Americans to endow them with a special national meaning.

Animals and Energy

The slaughter of the buffalo opened the West for an expansion of the domesticated grazers that would more efficiently provide food, clothing, and energy for humans. Twentieth-century Americans readily think of animals as food, but they forget that for millennia, animals were also energy. Whale oil and tallow provided light. Animals moved people and freight. Before the coming of the railroads, animal-drawn freight wagons hauled the commerce of the prairies, plains, and mountains. Even after the building of the transcontinental railroads, stagecoaches and freight wagons served those areas away from the tracks. Until displaced by the automobile, horses and buggies provided local transportation. Animals pulled the plows that broke the prairies and much of the plains. Oxen dragged logs from the woods; the limits of animal power determined how far from navigable streams early loggers in the Pacific Northwest could go.

In providing energy, the preeminent animals in western enterprises were oxen and mules rather than horses. East of the Mississippi, where improved forage, water, and shelter were readily available, the big, grain-fed Conestoga horses provided the traction for freight wagons. Under the harsher conditions of the West, mules, an infertile cross between a donkey and a horse, stood up better to the rigors of freighting. Although, as the saying went, "without pride of ancestry or hope of progeny," they had the longest working life (eighteen years) of any draft animal, were plagued by few diseases, resisted saddle and harness sores, and could, freighters claimed, do as much work as a horse on one-third the food. There were few mules in Missouri when William Becknell loaded three farm wagons with trade goods, hitched them to horses, and opened the Santa Fe Trail in 1821. But thanks to the Santa Fe trade, mules became a major export of the Mexican borderlands to the American borderlands.

Oxen were slower than mules and more liable to disease, but they had other offsetting advantages. They were much cheaper than other draft animals, and so was their harness equipment. Indians were less likely to steal them, and unlike mules and horses, oxen could live and work on grass alone. The oxen that initially pulled western wagons before the Civil War were not the massive draft animals of the Northeast; they were Texas or Cherokee range cattle. In 1860, what appears to be a partial census counted an estimated 65,950 oxen, valued at $35 each, pulling freight across the high plains; only 7,574 mules, at $125 each, were in harness.

Oxen powered the western freighting industry, but horses and mules supplied the power for western stagecoaches. Transporting freight and people demanded tremendous numbers of animals. Ben Holladay, who in the 1860s briefly reigned as the "Stagecoach King" of the West, supposedly employed 15,000 men on his stage and freight lines and owned 20,000 wagons and 150,000 draft animals. In such operations, freight counted for more than passengers. The Stagecoach King and his competitors relied on federal mail contracts for their essential revenue and tended to regard passengers as so much paying ballast for the coaches. Except in California, passengers did not initially ride in the familiar horse-pulled Concord coaches of western movies. Between 1850 and 1864, a stagecoach trip from Missouri to Santa Fe meant a ride on mule-pulled, watertight wagons that could be dismantled and turned into scows on swollen streams. And since stage stations on this route were often few and far between, passengers and mail shared the wagons with fodder for the mule. Even with the Concord coach, a western stage ticket bought, in the words of a Denver passenger, "fifteen inches of seat, with a fat man on one side, a poor widow on the other, a baby in your lap, a bandbox over your head, and three or four more persons immediately in front, leaning against your knees." Nightfall meant sleeping on "the sand floor of a one-story sod or abobe hut, without a chance to wash, with miserable food, [and] uncongenial companionship." It was a jolting, pounding trip of crying children, swearing drivers, angry passengers, abominable whiskey, and brackish water. Dust was everywhere. Holladay was an ideal man to run such a crude and primitive enterprise. According to the railroad promoter Henry Villard, he was a "genuine specimen" of the successful pioneers of western enterprise: "illiterate, coarse, pretentious, boastful, false, and cunning."

Mules, oxen, and horses had pulled him into great wealth, but Holladay recognized that in long-distance transportation, the days of animal power were numbered. After 1866 he withdrew from freighting and stagecoaching and invested his money in coastal shipping and steamboats on the rivers of the West Coast and, finally, in railroads. Animals, as Holladay realized, were fleeing before steam, and this new source of power, divorced from living ligament and muscle, drove draft animals into more and more

The sinew and muscle of animals powered agricultural production in the West well into the 20th century.

J.E. Stimson (1870–1952). Harvesting Oats near Dallas, South Dakota. *Photograph, 1908. Wyoming State Museum, Cheyenne.*

remote sections of the West. In these corners of the West, their capacities continued to mark the limits of enterprise. As long as animal power hauled ore, for example, transportation was expensive and only high-grade ore was worth processing. Low-grade ore or less valuable minerals like copper had to await the railroads. As long as bull teams hauled logs, logging could not penetrate much farther than a mile or two from tidewater or navigable rivers and remain profitable.

Long after steam displaced animals from long-distance transportation, draft animals continued to provide power in the fields. They were in a sense the largest of barnyard stock: animals that lived in close association with humans. There was a surprisingly obvious gendering of the work involved with such domestic animals. Those that produced milk or eggs for consumption or local sale were the domain of women; those animals that produced power, meat, wool, or hides were the domain of men. This changed only when chickens or dairy cattle became fully commercialized. At that point, they too became the domain of men.

The hold of draft animals on American farms proved quite tenacious. Because of their rapid gait, horses were the traction animals of choice over most of the West, but the mule's tolerance for heat gave it the advantage in Oklahoma and Texas. Oxen were less common, although farmers used large oxteams to break raw prairie, particularly wet prairie, until the late 1860s. By the late nineteenth century, steam power had replaced animal power on a large scale only in threshing. Even after the invention of the tractor, many farmers kept their horses and mules because they were far superior for cultivating row crops. Not until 1920 did mechanical power drive most draft animals from the field. By the 1930s, the horse and mule population of the United States had dropped ten million from its peak. As horses and mules vanished, so too did the patchwork of irregularly shaped fields, with their hedgerows and windbreaks that were suited to horse-drawn plows but not to tractors. Thirty million acres of hay, barley, and oats, previously needed to feed traction animals, now became available for the production of other crops. Profits from such crops were necessary, for with the dependence on machinery, the farmers' need for capital rose.

Industrialism, with its creation of new sources of power and products, narrowed the spectrum of animals of enterprise to those that were good to eat or those with skin or wool that was good to wear. Americans were increasingly urban dwellers: 40.3 percent of the people in the Northeast and 20.8 percent in the Midwest lived in cities or towns by 1870, and this growing urban population wanted meat, hides, and hair in quantities greater than ever before. Above all, they wanted beef.

Eastern Tables and Western Beef

Why late-nineteenth-century Americans wanted such vast quantities of beef is not immediately obvious; Americans have not always chosen beef over other meats. If late-nineteenth-century consumers had wanted chicken or pork, or had decided not to eat meat at all, the history of the West would have been considerably different. Before the Civil War, urbanites ate preserved pork, but even then it appears that their desires were turning to fresh beef. Pork may have been on their tables, but beef was on their minds. It was the food that managed to denote both high status and down-to-earth Americanism. The managers of William Henry Harrison's 1840 campaign for the presidency captured the potent symbolism of beef when they coupled Harrison's Indian fighting and log cabin with his diet of "raw beef and salt" to create defining symbols of a rude but democratic American. His opponent, Martin Van Buren, with his weakness for French food and his supposed aristocratic tendencies, seemed effete and elitist by comparison.

Plentiful grass for cattle in the West and eastern consumers hungry for beef were necessary but not sufficient conditions for a prosperous western cattle industry. Range-fed cattle from the grasslands initially provided tough and stringy beef that captured only the bottom end of the growing beef trade: the cheaper cuts of meat in American cities and cured beef for the trade with England. Middle-class Americans, desiring fatter, tenderer meat, bought corn-fed midwestern beef.

Texas Longhorns provided the first inroads into eastern markets. Butchers derided the Longhorn as "eight pounds of hamburger on 800 pounds of bone and horn," but the Longhorns had assets more apparent on the western plains than on the eastern table. Texas Longhorns were a distinct breed of cattle and not merely the description of the horns of a steer. The Spanish cattle of Texas, the Criollos, had long horns, but they were not the Texas Longhorns. True Texas Longhorns did not appear until the early nineteenth century. A backcountry cattle industry had long existed in the American South, and American migrants brought some of these cattle with them into Texas. Criollos thus interbred with American cattle, some descended from a special English breed—the English Longhorns. The crossing of Criollos and Anglo-American stock, like so much of the history of western animals of enterprise, resulted from violent acts. In the wake of the Texas Revolution, raiders from both sides of the border drove off cattle and thus mixed Mexican and Anglo-American animals. Between 1836 and 1865, fertile, long-lived, pugnacious, multicolored cattle with long legs, long tails, long bodies, and long horns (a trait derived from both parent stocks) developed. These cattle were resistant to the tick-carried Texas fever, and they thrived on grass without supplemental feeding.

As southern migrants into Texas abandoned their earlier custom of penning cattle and adopted the Mexican practice of allowing cattle to roam free, the mixing of breeds (including wild Criollos) increased. When the Civil War eliminated both the markets for cattle and many of the men who raised cattle, untended Longhorns bred promiscuously with other range cattle. By the end of the Civil War, Longhorns formed the majority of the roughly five million cattle in Texas. Most of these cattle were unbranded and thus free for the taking. Unlike the feral Criollos, they were manageable, and so they would not remain mere wild cows, the prey of human hunters.

The very biology that gave Texas Longhorns their advantage, however, seemed doomed to limit their commercial prospects. In the arithmetic of enterprise, cattle were only commodities, but cattle continued to demonstrate that they were animals—complicated living things. Texas cattle, for example, carried Texas fever. Although Longhorns had an immunity to Texas fever, when driven out of Texas, the cattle carried the ticks that transmitted the disease. The ticks dropped off and found new hosts, and the new hosts died. Northern farmers did not know how the disease was communicated; they knew only that when Texas cattle came in contact with their domestic stock, their animals died. Northern cattle sometimes sickened simply after crossing a trail used by Texas cattle. The Texans, who never saw their livestock die of the disease, denied that it existed or, at least, that it came from Texas cattle, but they had to face the reality of northern attempts to ban their cattle.

Ticks, as much as markets, determined the initial course of the plains cattle industry. When Texas cattle raisers tried to drive herds north after the Civil War (as they had before the war), Missouri and Kansas farmers violently resisted their passage, shutting off direct access to northern markets. Texas cattle had to stay west of the line of agricultural settlement; thus, except for a small trade to New Orleans, the initial postwar markets for Texas cattle were the mines, military posts, and Indian reservations of the West.

Providing beef to hungry miners in the Rockies had arisen almost as a side effect of transcontinental travel. A percentage of the oxen hauling migrants to Oregon and California and pulling freight wagons within the West inevitably wore out and went lame. J. W. Iliff, who as a failed miner in the 1859 gold rush to Pikes Peak was a sort of human equivalent to these failed oxen, realized that their misfortune might cancel out his own. Iliff established a little store near what is now Cheyenne, Wyoming; in addition to cash sales, he began bartering with passing migrants for lame, footsore, and emaciated cattle and oxen.

Like other early cattlemen in Colorado, Wyoming, and Montana who began roughly similar operations, Iliff discovered that cattle could overwinter with little care on the plains. To easterners, the bunchgrasses of late summer looked scanty and sorry when compared with the big bluestem of the prairies or a bluegrass pasture of the East, but the bunchgrass plains were a storehouse of surprises. Nature annually turned bunchgrasses into hay on the stem. Unlike big bluestem or introduced grasses, bunchgrass retained much of the original plant protein in the dry leaves. And this natural hay remained accessible. Despite cold winters, the light dry snows of the region usually did not crust, thus allowing cattle to push their way down to the grass. On the south-facing slopes, cattle did not have to dig at all, since the winter sun soon melted the snow. In short, it appeared that in the West, animals did not require winter feeding. Footsore cattle, bunchgrass, and hungry miners combined to make Iliff the first of the cattle kings of Colorado and Wyoming.

Iliff's kingdom eventually expanded to thirty-five thousand head; he had cattle in Colorado ranging from Julesburg to Greeley. Whatever the regenerative properties of bunchgrass, however, it could not make oxen reproduce. Iliff built his herds from cattle driven north from Texas. In 1866 Iliff bought cows and bulls that two peripatetic Texans, Charles Goodnight and Oliver Loving, had brought into the Arkansas Valley.

Goodnight, although born in Illinois, was raised in Texas, and he was one of many restless, ambitious Texas cattlemen seeking an outlet for the Longhorns. In 1866 he trailed a cattle herd west from the Cross Timbers to Fort Sumner, New Mexico, where the military needed beef for themselves and for the Navajos and Apaches confined at Bosque Redondo. Goodnight later established a ranch, neither his first nor his last, forty miles south of the fort. By 1870, the federal distribution of cattle to reservation Indians, whose livelihood the Americans had destroyed, required fifty to sixty thousand head a year.

When Iliff began collecting footsore oxen, the mines west of the Rockies had already supported a fledgling cattle industry for a decade. The California gold rush provided the *californio* ranchers with markets virtually at their doorsteps, and cattle once valued for their tallow and hides became beef animals. The *californios* sold cattle to the very miners who had banished them from the goldfields, and they sold cattle in prodigious numbers. Thinking the boom permanent, they spent freely and mortgaged their land at usurious rates to pay the taxes on it and to hire lawyers to defend their ranchos from Anglo squatters. But by 1861, the boom was over. Then came floods, followed by the worst drought southern Californians had endured. Between 1862 and 1864, roughly three million cattle starved to death on the range. Disease administered the coup de grace to the cattle and the ranchos; by 1869, only thirteen thousand cattle remained in southern California. Sheep had replaced them. The ranchos passed into Anglo hands.

By driving down prices, cattle from the Pacific Northwest played their part in destroying the California cattle industry. Some of the Oregon steers that went south to the mines were, in a sense, returning home. They were descendants of California cattle imported by the Puget Sound Agriculture Company, a Hudson's Bay Company subsidiary that had earlier sought to produce tallow, beef, and hides to replace dwindling fur returns as a company export. But most of the cattle for the mines were domestic stock from the eastern United States, stock that in the 1840s had accompanied American migrants west along the Oregon and California trails. More docile, better milkers, and carrying more flesh than the California cattle, they became the preferred stock in Oregon and Washington.

In the 1850s and 1860s, Oregon cattle added much of the interior grass and sagebrush lands of the Great Basin to the bovine empire. They finished their conquest of the region by the 1870s. In Nevada they met herds from the central valley of California fleeing first the drought and then the conversion of interior cattle ranges into wheat fields and orchards. Only Utah resisted the open-range system of Oregon and California. The Mormons had adapted to the arid Great Basin by creating a unique village-based stock-raising system that combined hay production on irrigated fields, the winter feeding typical of midwestern livestock systems, and summer drives to mountain pastures.

Feeding miners, soldiers, and Indians maintained a small western cattle industry, but as long as Texas fever kept Longhorns from eastern markets, a beef bonanza on the scale envisioned by promoters remained a mirage. At the end of the Civil War, cattle were a glut on the market in Texas, selling for three to four dollars a head, with a fat beeve bringing only five to six dollars. In New York, a three-year-old steer (admittedly of better quality than a Longhorn) brought eighty dollars; in Illinois, a steer brought forty dollars; and even in relatively nearby Kansas, the steer cost thirty-eight dollars.

A tick held all these profits hostage, and they might have remained hostage if the tick could have endured cold. But it could not; a hard freeze killed it. Drovers discovered that when cattle were held on a northern range until after a hard frost, the cattle could be safely shipped. And cattle that spent a year or more fattening on the central and northern plains before shipping were free of fever. Cattlemen did not as yet know how, but the isolation and hard winters of the plains were freeing the profits held hostage by Texas fever.

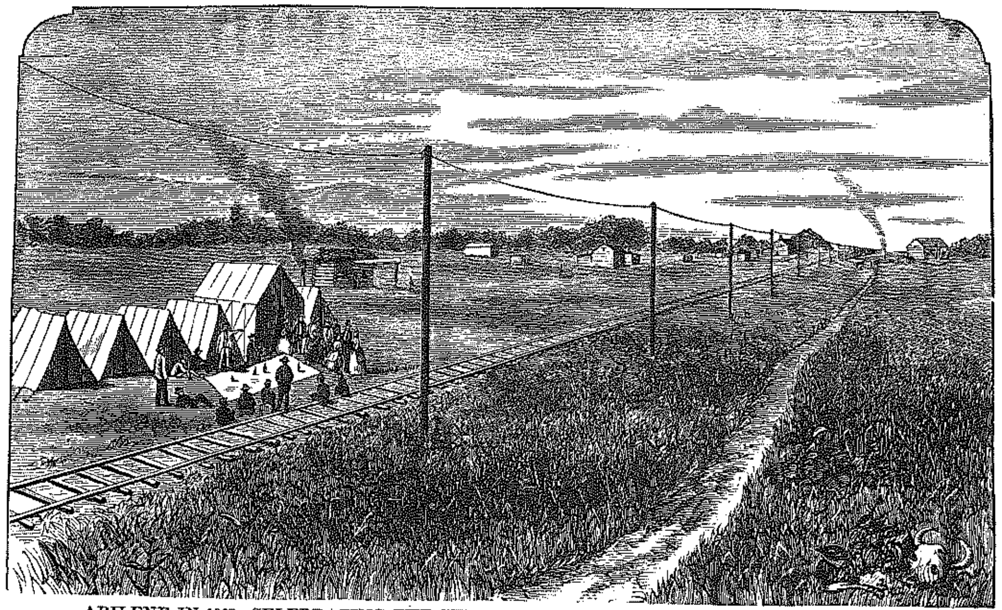
Joseph G. McCoy claimed credit for being the first to realize the financial possibilities that the convergence of Texas fever, Texas cattle, and the railroads presented, but McCoy was as lucky as shrewd. He was only one among several entrepreneurs who sought out likely spots along the Kansas Pacific and solicited Texas cattle. McCoy helped found Abilene, the first of the cattle towns that enterprise, railroads, and ticks created. Jesse Chisholm, a Texas cattleman of Cherokee ancestry, pushed a trail north from Texas across the Indian Territory to Abilene. During the summer of 1867, an estimated thirty-five thousand Texas cattle came up the Chisholm Trail.

These first drives were not profitable, but McCoy persisted and advertised for more cattle. Over the next twenty years, two million cattle would come up the Chisholm trail and its successors. Traveling ten to fifteen miles a day in herds numbering two to three thousand head, the cattle wore troughs as deep as shallow canals, which remained visible for years. The alliance of ticks and Texas cattle forced a steady westward march of cow towns and the trails that fed them, for once farmers surrounded a town, they banned Texas cattle, from fear of Texas fever. And so the trails led first to Abilene, then later to Ellsworth, Dodge City, and Hays.

McCoy and other cattle-town entrepreneurs solved the problem of moving Longhorns east, but they had not made the Longhorns any more palatable. Northern tastes demanded marbled beef, and Longhorns did not fatten easily when fed grains or, later, cottonseed by midwestern farmers. To get better-quality beef, cattlemen began to interbreed the Longhorns with improved stock from the East. This hybrid stock more easily put on weight on the farm feedlots of Iowa and Illinois. By the late 1870s and early 1880s, midwestern farmers were selling improved cattle in the West and rebuying the steers they produced as feeders. To service these cows, western ranchers began importing purebred Hereford and Shorthorn bulls. Longhorns gradually disappeared as feedlot buyers demanded cattle that could turn a minimum amount of corn into a maximum amount of beef in the minimum amount of time.

Abilene, Kansas, became the first of the cattle towns, where cattle driven north from Texas were loaded on railroad cars for shipment east.

After Henry Worrall (1825–1902). Abilene in 1867—Celebrating the Shipment of the First Train-load of Cattle. *Wood engraving, 1874. From Joseph G. McCoy,* Historic Sketches of the Cattle Trade of the West and Southwest *(1874). Courtesy Amon Carter Museum, Fort Worth, Texas.*



ABILENE IN 1867—CELEBRATING THE SHIPMENT OF THE FIRST TRAIN-LOAD OF CATTLE.

Quality was one obstacle the western cattle industry faced; price was another. For beef to be cheap, it needed to be mass-produced, and this could not happen until it could be preserved. Packers had been working on refrigerating beef since the 1860s, but technical problems stymied them until Gustavus Swift created a fleet of refrigerator railroad cars; by 1882 he was successfully marketing refrigerated Chicago beef in New York. Refrigeration allowed shippers to avoid paying freight on the inedible portions of cattle. It cost half as much to ship a dressed carcass as a live animal, and centralized, industrial slaughter allowed a fuller use of by-products. By the 1880s, refrigerated beef undersold fresh beef in the East. The price of prime cuts dropped 40 percent between 1883 and 1889. Because the production of refrigerated beef demanded industrial slaughterhouses, a fleet of refrigerator cars, and a coordinated marketing network, capital costs were high. A few Chicago packinghouses—Swift, Armour, Morris, and Hammond—quickly created an oligopoly that forced smaller regional packers out of business. By the early twentieth century, they, along with Cudahy and Company, produced 82 percent of the beef in the United States. Other meat-packing centers—Kansas City, Omaha, and later Fort Worth—arose as outposts in the dominion of the "Meat Trust."

Americans came to think that they were living in the "Golden Age of American Beef." With cookbooks and magazines dismissing pork as difficult to digest, unwholesome, and unhealthy, fat beef became a health food. The urban Northeast became a world of beef and potatoes; the older hog and hominy diet retreated south. For Anglo Americans, Irish Americans, and German Americans in particular, beef reigned as the symbol of the good life, and the good life became attainable at least at the dinner table. According to the German sociologist Werner Sombart, it was on the "reefs of roast beef and apple pie" that the dreams of American socialists were dashed. And the newer immigrants from eastern and southern Europe soon adopted this preference for beef.

American per capita beef consumption reached a peak in the early twentieth century, only to dip after World War I, before rising to what would be all-time highs after World War II and then falling again.

Making the West Comfortable for Cattle

In the promotion of western stock raising, ideologues were in a sense as significant as the packinghouse magnates. The ideologues were a varied lot: a general of the U.S. Army, James S. Brisbin; a German aristocrat who came as a tourist and stayed as a speculator, Walter Baron Von Richthofen; a surgeon for the Union Pacific, Dr. Hiram Latham; a publicity man for the Union Pacific Railroad, Robert Strahorn; and the entrepreneur and townsite promoter Joseph McCoy, of Illinois, who generously credited himself with creating the cattle industry. It was they who worked for and proclaimed the rise of the cattle kingdom. It was they who urged and celebrated the transformation of the plains, deserts, and mountains from a biological republic to a biological monarchy where humans reigned, where uselessness among lesser living things was a crime punishable by death, and where enterprise was the reigning virtue.

The importance of these boosters was not the example they set; rather, it was the new order they perceived. McCoy soon left the western cattle business; Latham's ranch investments failed; and Richthofen's major livestock experience seems to have been operating a dairy barn for consumptives who rested on second-story porches while sipping fresh milk brought up from purebred cows on the floor below. What the boosters, for all their individual limits, realized was that stock raising was not a romantic retreat from industrial America; stock raising was part of its foundation and its base. Hiram Latham, in particular, conceived of the enterprise in grand, nationalistic terms. He was intent on harnessing useful animals to their rightful task of helping create an industrial power. Industry, in return, provided the railroads, refrigeration, modern packing plants, and urban populations that made beef production practical.

In his 1871 pamphlet *Trans-Missouri Stock Raising,* Latham presented a series of what he regarded as largely self-evident propositions. To maintain a large population of laborers who would sell their products in the competitive markets of the world, the United States must furnish them with cheap food and clothing. The cheaper the food and clothing, the cheaper every article they would produce, and "therefore, in proportion to the abundance and cheapness of our food and clothing, will be our success as a manufacturing nation." This food must include meat, for a solely vegetable diet brought degeneration "to the condition of the Macaroni Eaters of Italy." Cheap meat and cheap wool for clothing demanded cheap lands, but since land prices in the East were rising, the future of stock production was in the West, where there lay "a billion acres . . . boundless, endless, gateless, and all of it furnishing winter grazing."

Cattle and sheep were so many machines to turn grass into meat, hide, or wool, all of which could be readily turned into dollars. Latham's ambitions for sheep and cattle knew no bounds. In a speech to the Colorado Stockgrowers Association in 1873, he said stock raising should not cease until "every acre of grass in Colorado is eaten annually." Latham and the other boomers mastered the arithmetic of optimism. There is, Richthofen assured his readers, "not the slightest uncertainty in cattle raising." In the Spanish proverb that Latham loved to quote, "Whatever the foot of the sheep touches turned to gold." Ideologues and stock raisers alike conceived of sheep and cattle as biological dollars that could mate and produce little dollars with the same regularity with which interest compounded. In their books are tables of investment and yield that have cattle endlessly procreating and cows, heifers, and steers relentlessly transforming themselves into money. At the end of six years, Richthofen estimated a profit of 156 percent on the original investment. Experienced cattlemen, he said, thought it too low.

There was no possibility too remote for this arithmetic of enterprise. For example, a limitless demand for cheese would supposedly push dairy cows into the grasslands. To provide the market, Latham happily imagined the Chinese and Japanese to be cheese eaters—allocating them fifty thousand tons annually—and spiraled the resulting figures into wonderful castles of profits. The Platte River valley alone could support twelve hundred cheese factories and five hundred thousand milk cows and would yield $33,295,000 in profit. As for the scope of such enterprises, Joseph Nimmo, in his *Report in Regard to the Range and Ranch Cattle Business*, prepared for Congress, estimated that in 1885, 44 percent of the United States, exclusive of Alaska, was devoted to grazing. All of it was in the West.

This fascination with the free, apparently limitless grass of the West relegated the old pioneering eastern animal of enterprise—the pig—to the western barnyard, for grass formed only a minor part of a hog's diet. Pigs had accompanied and sustained Anglo-American farmers in the wooded, humid lands of the East, but in the West they prospered only on the prairie margins where farmers grew corn and in rare places such as the western parts of Washington Territory or eastern Texas. Most of the West was inhospitable to the pig. Pigs do not like direct sun and heat; they need access to shade and water. They do not like extreme cold. Pigs became mere animal tourists in the West. They clustered on the edges of Solomon Butcher's famous photographs of Great Plains farms, pampered and peripheral. Unless human beings made them comfortable, pigs wished they had never come west.

The tendency of American universities to name their athletic teams after animals nicely reveals the boundaries between the kingdoms of the cow and the hog. The athletic teams of the University of Arkansas are the Razorbacks. Razorbacks are feral pigs that once abounded in the woods of Arkansas, and University of Arkansas athletes presumably share the better qualities of wild hogs. One state over, to the West, you encounter the Longhorns of the University of Texas. Although eastern Texas proved hospitable to pigs, western Texas welcomed only cattle, and Texas football players today derive inspiration from their identification with neutered cattle.

As pigs lost their pioneering role in the West, they regained it in another sense in the East, for it was on their bodies that entrepreneurs perfected the mechanisms of industrial slaughter. The industrial slaughter of pigs paved the way for the industrial slaughter of cattle. Chicago emerged from the Civil War as the major meat-packing center of the nation. The massive new Union Stock Yards, underwritten by the railroads in 1865, became the central distributing point from which butchers elsewhere bought live cattle. In the 1870s, before refrigeration, most cattle sold in Chicago were still shipped east for butchering, but Chicago was "Hog Butcher to the World." Hogs retained two major advantages over cattle. They more efficiently turned corn into meat, and hogs—whether as bacon, ham, salt pork, or lard—took to preservation better than

Systematically photographing the people of Custer County, Nebraska, for a regional history, Solomon Butcher created a visual inventory of his subjects' material possessions. Here the settlers' domestic animals and draft horses are displayed as symbols of prosperity while the pigs—animals that never adjusted well to the western climate—remain on the periphery.

Solomon Butcher (1856–1927). East Custer County, 1887. *Photograph, 1887. Solomon D. Butcher Collection, Nebraska State Historical Society, Lincoln.*

beef in the days before refrigeration. Although there was some market for dried and salted beef, most cattle were slaughtered near the point of consumption and sold quickly as fresh beef; pigs could be killed far away and held for sale.

Meat packers transformed slaughterhouses into year-round factories that turned hogs into meat and an increasingly formidable line of by-products. Chicago packinghouses learned to escape the seasonal constraints nature had previously imposed on their enterprise. Using ice, they began, on a small scale, to extend the packing season from the cold-weather months into the spring and summer. The slaughter of hogs increased fivefold between 1872 and 1877. In killing pigs, the packers created a centralized infrastructure that could be expanded to killing and marketing cattle once the packers had perfected a way to preserve the meat.

The western expansion of the railroad network, industrialized slaughter, and the development of refrigeration all allowed western cattle to penetrate more and more deeply into eastern markets. And once cattle found their markets, they became creatures of those markets. When the economy boomed, as it did in the early 1870s and again in the early 1880s, the cattle industry prospered and cattle expanded their numbers and range. When the economy slumped, as it did in the mid-1870s and late 1880s, the cattle industry contracted. The booms of the early 1870s and early 1880s differed, however. The first involved stocking the plains; the second involved stocking butcher shops once cattle became the leading animal of industrial capitalism. During both booms, and in the years that followed, Americans seemed to have no higher ambition than making the awesome western landscape comfortable for cows.

Stocking the Great Plains and the Southwest absorbed most of the cattle produced in Texas. An estimated two-thirds of the cattle driven north out of Texas in the 1870s and early 1880s were yearlings and two-year-olds. Such cattle were too young to market. They, along with a smaller number of cows and calves, were sent to stock the northern grasslands. A second, subsidiary drive, usually numbering 20–25 percent of the northern drive, took cattle into New Mexico and Arizona. The Sioux on the northern plains and the Apaches in the Southwest opposed this expansion, but financial markets proved more deadly than Lakota and Athapaskan warriors.

The optimism of Texas cattle raisers—made tangible in the 600,000 head of cattle they drove north in 1871, the largest total for any year—foundered when one-half the cattle driven north remained unsold. Placed on already overstocked ranges near the cattle towns, many of the cattle died in the harsh winter of 1871–72. The industry was barely recovering from this disaster when the Panic of 1873 cut off the drovers' access to credit. When the banks refused to extend loans, the herders had to ship their young and thin cattle to market, further depressing prices and driving many to ruin. Markets remained depressed, and by 1875 only about 150,000 cattle were going up the trails from Texas. West of the Rockies, the mining boom ended, and the cattle of the Oregon country lost three-quarters and more of their value. This combination of bad weather and bad markets signaled the end of the first boom on the open range.

Although cattle prices remained low until 1881, the industry began to recover in the late 1870s. In 1876 over 300,000 cattle came up the trail from Texas, twice the total of the previous year. For the rest of the decade, the number fluctuated between 200,000 and 250,000 head annually. In the Far West, cattle from southeastern Oregon and southwestern Nevada headed to Winnemucca, Nevada, on the Central Pacific Railroad for shipment to San Francisco. Stocking the central and northern plains quickened with cattle from Oregon joining the herds coming up from Texas.

Oregon and Texas cattle moved onto the plains by their own power; they left the plains in cattle cars provided by the expanding railroads. In 1880–81, Denver became a major sales center with the creation of the Denver stockyards. Farther north, Cheyenne, Wyoming, the headquarters of the Wyoming Stock Growers Association, became one of the capitals of the cattle kingdom. Ogallala, Nebraska, at "the end of the Texas Trail," joined the Kansas cattle towns as a shipping center, as did Miles City, Montana, which went from serving the military sent to subdue the Sioux to serving the cattle raisers who succeeded the buffalo hunters. The eastern demand for western beef grew great enough by the mid-1880s to reach across the Rockies. Ontario, Oregon, replaced Winnemucca as the shipping point in the Great Basin as Chicago superseded San Francisco as the destination of Oregon and Nevada cattle.

In this second cattle boom, large railroad corporations shipped the cattle, and the beef trust slaughtered them. Ranching corporations in the West sought to match this corporate dominance of shipping and slaughtering stride for stride. By the 1880s, western cattle had become creatures of the world capitalist market; the greed of investors became as essential to the propagation of cattle as grass on the western plains. Western banks, particularly those in Denver and Kansas City, had financed much of the early cattle industry at rates of interest ranging from 10 percent to 25 percent, but now eastern and European investors, who commanded much more abundant and cheaper capital, took over the industry.

Cattle corporations were organized in Boston and New York; a large number arose in Great Britain, particularly in Scotland. John Clay, a Scotsman who transplanted to the West, marveled at "this love of money making, enterprise you might call it," that pulled first Scottish investors and then English investors into cattle raising. American investors took money made from mining, railroads, and merchandising and invested it in cattle. In Dundee, Scotland, profits from the jute trade financed western cattle corporations. The thrifty Scot, as Clay remarked, was also the speculative Scot, and this financial schizophrenia found full play in the grasslands. Having gambled on cattle, the Scots tried to enforce precise managerial and accounting techniques in cattle companies that neither knew how many cattle they possessed nor owned most of the land their cattle grazed. The imaginary arithmetic of the cattle business reached new heights in the book count that applied presumed fertility rates to estimates of existing herds and passed off the results as actual cattle. Skeptics in the British financial press complained that purchasing shares of such operations was only playing "poker on joint stock principles." And the players in this particular game—American promoters such as "Uncle Rufus" Hatch, a New York speculator—were not above dealing off the bottom of the deck.

Between 1882 and 1886, as many capitalists as cowboys seemed to be chasing cattle in the West. Much of the total British cattle investment of forty-five million dollars entered the West during these years, and eastern investors outspent the British. Wyoming boasted nearly 100 new cattle companies, New Mexico over 100 (with, however, less funds behind them), Montana 66, and Colorado 176. Some of these corporations grew to gargantuan proportions because the larger the operation, the cheaper it was to raise cattle. Expenses did not increase as a ratio of the size of the herd. In southeastern Oregon, for example, it took three cowboys to care for a herd of one thousand head, but eight thousand head demanded only twelve cowboys.

The holdings of the new cattle companies rivaled European principalities in size. The XIT ranch in Texas arose from the offer in 1879 by a syndicate of Chicago investors to build the Texas state capitol in exchange for the three million acres the legislature intended to sell to pay for the building. The XIT (an abbreviation for "Ten in Texas," referring to ten counties) was unusual not because it was so large but because it owned its land. Other large companies did not hold title. The greatest of them, the Prairie Cattle Company, straddled New Mexico, Texas, and Colorado and contained three divisions, each named after the major river that watered it. Its Arkansas Division in Colorado contained thirty-five hundred square miles; its Cimarron Division in New Mexico had over four thousand square miles. By comparison, its Canadian Division in Texas was relatively tiny: it held only four hundred square miles.

Operations of this size, like other corporations in the West, tried to leave little to chance. They sought a rationalized industry. They wanted to take living animals—cattle—and make the lives of these cattle, from birth to slaughterhouse, as predictable as possible. The companies wanted to control everything about the cattle: their genes, what they should eat and when, how much it should cost to get them to market, and the price they should bring. The cattle corporations wanted to keep labor costs low, and they wanted a dependable, malleable work force.

Cheap labor was one of the appeals of cattle raising, but the corporations wanted to make it even cheaper and far more malleable. The companies' peak labor needs came at roundup and during cattle drives; during the rest of the year, "line riding" cowboys traveled the high ground between watersheds, drifting cattle back toward the ranges claimed by their respective owners. For their labor, these cowboys received only from twenty-five to forty dollars a month plus room and board, and the room was usually as simple as a dugout or a board shack. When cowboys struck for higher wages in the Texas Panhandle in 1883, the Panhandle Cattleman's Association ruthlessly broke their strike. Corporations did not seek romantic heroes for employees; they wanted men who worked cheaply, did as told, and did not get drunk and shoot each other or the cattle. Into the 1880s, the majority of these cowboys were white, with a considerable minority of African Americans working in Texas and Oklahoma, but gradually cattle companies in southern and western Texas began to replace Anglo cowboys with *tejanos* and Mexicans, who drew only one-half to two-thirds the pay of Anglos. Elsewhere, companies began to forbid their cowboys to gamble, drink, or carry six-shooters. R. G. Head, of the Prairie Cattle Company, issued a lengthy circular to his cowboys, reminding them of their moral responsibilities. They took his remonstrances well. Like good company men, the cowboys gave him a silver service when he lost his position as manager.

Cattle raising was becoming an increasingly specialized business by the 1880s. The arithmetic of enterprise, so deceptive in many respects, had accurately revealed that a division of effort best served the industry. A greater percentage of calves survived in Texas than in the cattle country to the north, but young steers fattened more quickly on the northern ranges. The Texas cattleman George B. Loving claimed in 1880 that a Texas steer removed to Nebraska at one or two years old would weigh 1,100 to 1,300 pounds at four years. That same steer, left in Texas, would weigh only 850 to 950 pounds at the same age. Thus, although Texas continued to produce cattle that went directly to market and northern cattle raisers continued to breed their own stock, a rough specialization between southern breeding grounds and northern fattening grounds developed. Many northern cattle raisers annually imported Texas yearlings to fatten on their grasslands.

As specialization increased, a Texas calf (or for that matter a Wyoming calf) was likely to know several owners before its head met a hammer in a Chicago slaughterhouse. Born in Texas and fattened for several years on the northern plains, it might then be shipped to the Flint Hills of eastern Kansas. There it would feed for several months on the lush bluestem grasslands before those grasses began to decline in protein in early July. Now two to three hundred pounds fatter than when it began to gorge on bluestem, the steer would either go directly to slaughter or be sold to a midwestern farmer for further fattening on corn before being killed. By 1883, the Swan Cattle Company had established its own fattening pens near Omaha, where it prepared cattle for the early spring market.

To broker the buying and selling of cattle and the procuring of the grazing land and capital that cattle required, a host of commission merchants acted as middlemen in the business. Most firms were located in Chicago. John Clay was a Wyoming cattleman, but he located his commission firm in Chicago, as did his successful competitor Joseph Rosenbaum.

Cattlemen cultivated an aura of individualism, but the big companies sought oligopoly and a safe market. They organized themselves into powerful local and state associations, which by the 1880s flourished all over the West. The associations held cooperative roundups in the spring to gather and brand newborn calves; they helped establish registry of brands; they hired stock detectives to track down cattle thieves. All

attained political influence, but none so great as the Wyoming Stock Growers Association, which faced no major economic rivals within the territory. It represented a concentration of private wealth flaunted in the famous Cheyenne Club, where an eastern visitor reported watching a member simultaneously play tennis and carry on a chess game at the side of the court while periodically refreshing himself with bourbon.

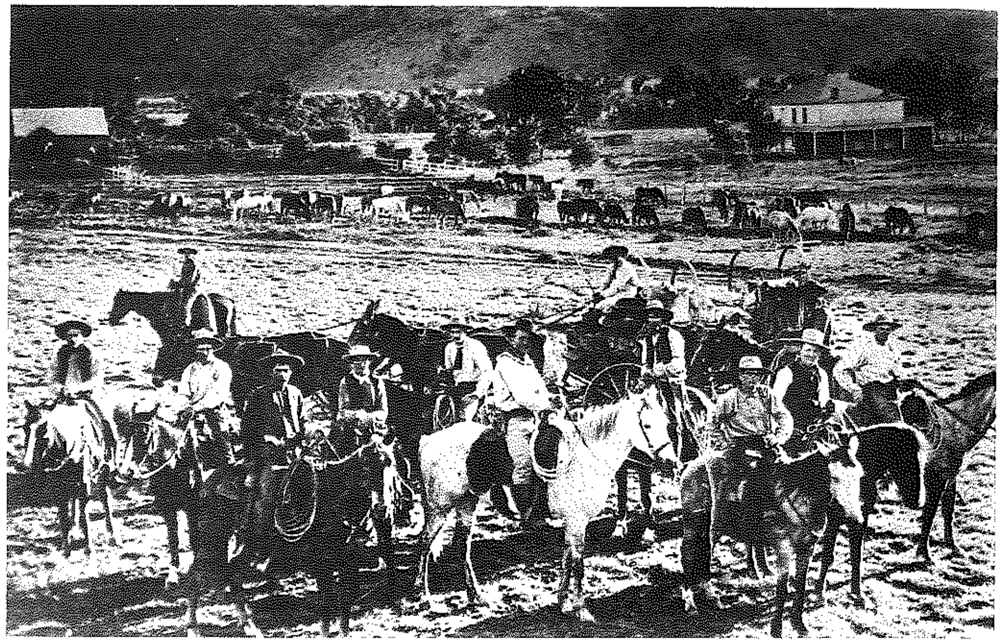
The cattle raisers had trouble extending this regional influence into the national arena. A national organization of cattlemen did not appear until 1883, and it almost immediately split over measures to be taken against the cattle diseases pleuropneumonia and the still prevalent Texas fever. Pleuropneumonia had led to a British embargo of American cattle imports, and northern cattlemen backed an Animal Industry Bill for federal inspection. Southern plains cattlemen, who feared bans on the movement of southern cattle, were already at odds with northern plains cattlemen in the old dispute over Texas fever. As northern cattle raisers turned to improved eastern stock, many came to fear the continued importation of Texas cattle because of both Texas fever and competition for the diminishing grass. In 1885, cattle raisers and farmers in Kansas and Colorado succeeded in getting their legislatures to pass laws that virtually prohibited the driving of Texas cattle into those states. Texans responded with demands that Congress create a national cattle trail so that their herds could move north.

Settling these disputes provided an occasion for the expansion of federal power. Congress established a Bureau of Animal Husbandry but refused to establish a national cattle trail. The Supreme Court ruled that the laws of Kansas and Colorado represented an unconstitutional restraint of commerce by the states, and the federal Bureau of Animal Husbandry took over quarantine inspection and regulation. By the late 1880s, the days of the long drive and the open range were numbered. When Texas yearlings went north, they increasingly went by rail.

Cattle raisers also resorted to soliciting federal intervention to settle disputes with the packers and railroads. Cattle raisers resented the control they believed Chicago packinghouses exerted over prices and the rates the railroads charged. But here they faced powerful enemies, and their victories were minimal. In the 1890s, the Interstate Commerce Commission did secure somewhat lower railroad rates, but cattle raisers failed to get effective federal aid against the packers.

The public domain represented the greatest failure of the cattle corporations to turn regional economic power into national political power. The "free grass" of the public domain that had created the cattle kingdom also presented the greatest danger to the corporations. For if the grass was free to the first cattle raiser to come across it, it was also free to the second, third, and fourth. And not even the wonderful arithmetic of the cattle business could feed an indefinite number of cattle on the same blades of grass. The first or second cattle raisers in an area saw themselves as hardy pioneers and men of enterprise; they saw the third and fourth cattle raisers in an area as "range pirates" stealing "their" grass. To deny competitors access to the ranges already claimed by members, the associations denied range pirates the right to participate in the roundups and refused their herds the protection of stock detectives.

With infinite ingenuity, cattle raisers sought ways to keep grass on public lands for themselves while denying it to competitors. There were legal ways to do this in some



Like many ranch workers of the late 19th century, these men were actually corporate cowboys, employed by a far-distant company.

Unidentified photographer. Home Ranch of the Prairie Cattle Co. Ltd., Scotland *(New Mexico). Photograph, ca. 1888. The Denver Public Library, Western History Department, Denver, Colorado.*

areas, but staying within the law was usually expensive or impractical. In Texas, cattle companies could and did lease state lands. Elsewhere they could purchase railroad lands or school lands. But a company that paid for land was obviously at a disadvantage when competing with a company that got its land for free. And so cattle raisers perfected the technique of obtaining large amounts of grazing land with few purchases. They turned aridity to their advantage by securing water rights and then enforcing extralegal customary rights by which those controlling a stream possessed range rights on its watershed. Controlling the lands bordering a stream thus meant the exclusive use of a much larger area of rangeland lying around the stream. This system of range rights originated in Texas and flourished into the 1880s. In 1882, for example, the Matador cattle company of Texas claimed a range of over a million and half acres on the basis of one hundred thousand acres of waterfront held in fee simple.

When purchasing land or enforcing extralegal rights proved impossible, the cattle corporations resorted to fraud. On occasion, cattle raisers could buy out legitimate homesteaders on riparian lands, but more often they resorted to "dummying" land along the streams. They used their cowboys as "dummy" homesteaders to file fraudulent claims on the land; the cowboys then transferred the land to the cattle raisers. Similarly, cattle raisers filed false claims under the Timber and Stone Act, the Desert Land Act, and the Timber Culture Act.

But barbed wire proved to be the cattle raisers' best friend. In the early 1880s, cattle raisers eagerly used the new technology to defend "their" grass. Before the invention of barbed wire, cattle raisers had bitterly opposed fencing laws designed to confine cattle, but inexpensive barbed wire changed their minds. In the early 1880s they fenced vast acreages of the public domain, even public roads, to keep out competitors, to cut labor costs by preventing their cattle from drifting, and to ensure that their improved bulls did not waste valuable semen on neighbors' cattle. When smaller cattle raisers violently

objected, the result was fence-cutting wars such as the one that erupted in Texas in the mid-1880s.

To protect their claims to the public domain, the cattle companies launched a battle for the leasing of federal lands. In doing so, they challenged deep-seated beliefs that agriculture was the proper ultimate use of all land. They also faced popular resentment, for it angered much of the public that foreign corporations could control public lands and exclude American settlers. President Grover Cleveland refused to allow leasing, and in 1885 he issued an executive order for the removal of fences on public land. He evicted herds of cattle trespassing on land in the Indian Territory, and Congress in 1887 passed laws banning foreign land purchases in the territories.

Congress and the White House were the decisive theaters of the battle over land, but a much nastier and often bloody conflict was waged in the West itself. In defense of customary rights, which were sometimes enshrined in state or territorial law, cattle raisers sought to drive competitors—whether sheep raisers, small stock owners (often ex-cowboys), or farmers—from the public domain. The associations redefined legitimate enterprise so that what had once been regarded as the natural progress of enterprise was now seen as theft.

In the early Texas cattle industry, enterprise alone could turn a cowboy into a cattleman. A cowboy who assisted at branding received a portion of the cattle in return. Cowboys too could, with little trouble, take up mavericks (motherless calves), whose ownership could not be determined, and thus become cattlemen. Indeed the gendered terms of *cowboy* and *cattleman* themselves seemed to embody a natural progression that both connected men (but not women) to the raising of large meat animals and correlated the progression from caring for animals to owning them with the growth from boyhood to manhood.

As cattle grew more valuable and range scarcer, large stock raisers sought to stop the mavericking that cowboys had come to regard as their rightful route to independence. Mavericking became an object of dispute in part because mavericks could be created as well as found, and the bigger operations sought to end a practice that at once drained their own herds and created competitors on the public domain. In Colorado, Wyoming, and elsewhere, mavericks were declared the possession of the stock associations and were annually auctioned off. Mavericking—a way to begin a career of enterprise—became rustling—a way to begin a career of crime. Small stockmen did not always agree with this redefinition of enterprise, particularly when the men who claimed higher virtue were themselves appropriating millions of acres of public land while protesting the actions of those who appropriated a few stray cattle. Such differences of opinion lay behind the Johnson County War of 1892, when members of the Wyoming Stock Growers Association hired gunmen to clear out small ranchers whom they accused of rustling.

The Johnson County War was the act of desperate men, for the days of the large cattle corporations were already numbered. They had engineered their own demise. As cattle prices rose in the early 1880s, cattle raisers had crammed animals onto the ranges. Roughly twenty million cattle grazed the American West by 1884, and although both federal studies and some stock raisers denied it, there were fears that there was no longer either enough grass to feed the cattle or enough consumers with the money to buy the beef. When the country once more became mired in depression, cattle, as commodities, went into decline. In 1885 the price for young steers fell dramatically. Too young for prime beef, and with no ranges open to them, they were a glut on the market.

Cattle could not feel their decline in exchange value, but as living things that experienced hunger, cold, and pain, they could feel the consequences of the human greed that had pushed vast numbers of them onto grasslands that could no longer feed them in climates where bad winters could bring enormous suffering. In the 1880s, drought and bad winters combined to inflict damage on western cattle, sickening those who saw it. The winter of 1880–81 brought devastating losses to the herds of the Columbia Basin, reaching 50 percent or more in some counties. Blizzards and bitter cold on the southern plains in the winter of 1884–85 forced hungry cattle to drift before the storms. But the animals' instinctual reaction came up against the new barbed-wire fences, where the cattle piled up and died. Hungry cows aborted their calves. The ones that gave birth were too weak to feed their offspring, and both cow and calf died. The calf crop plummeted. These bad winters moved like serial killers across the West. In 1886–87, a bitter winter followed a hot, dry summer on the northern plains. White arctic owls, for the first time in nearly a generation, appeared in Montana; the chinooks, the warm winds off the Pacific, never arrived, and the result was, as John Clay remembered, "simple murder." Cattle died as they had on the southern plains. Because the cattle companies operated on book counts, no one could be sure how many cattle died, since no one was quite sure how many there had been to begin with. Many companies took the opportunity to claim huge losses and thus remove the discrepancy between their book counts and their actual herds. Probably about 15 percent of the herds died, many more in the hardest-hit areas. Most of the survivors were weak, emaciated, and disfigured from the cold. To meet their loans, cattle raisers rushed many of these steers onto a declining market, pushing prices down farther. In Chicago, cattle worth $9.35 a hundred weight in 1882 brought $1 in 1887. In the Great Basin, 1889–90 was the terrible winter.

The suffering of livestock in these winters affected even hardened cattlemen; they could not, it turned out, fully commodify their animals. Confronted with carcasses of dead cattle and with living animals so weakened that they could not move from the mudholes that mired them, Granville Stuart found what had been a fascinating business suddenly distasteful. "I wanted no more of it. I never wanted to own again an animal that I could not feed and shelter." A concern for the humane treatment of animals destined for slaughter had begun to infringe on the concerns of enterprise well before Stuart's revulsion. The American Humane Society had obtained legislation governing the shipment of cattle as early as 1873, and their disputes with cattle raisers continued for the remainder of the century. Stuart's reaction only revealed the ambivalence of the cattlemen themselves.

Falling markets and the losses of these terrible winters hurt the industry in general, but some companies did better than others. Those companies that, in the derisive words of an English journal, were mere "hunters of wild cattle," although they styled themselves "graziers on a princely scale," did not survive. Better-run companies, such as the Matador of Texas, rode out the bad times, for they had managed to bureaucratize and centralize the business. They endured losses in the 1880s and in the early 1890s, but

they bought land, upgraded their stock, leased and purchased northern grazing lands for fattening, and raised hay. Their cowboys became company men who were as likely to dig irrigation ditches, put up fences, or cut hay as ride herd.

But even for the better-run cattle companies, the remainder of the century was more respite than reprieve. There would be another speculative boom, and another bitter collapse after the depression of the early 1890s, but the direction of stock raising had changed. The need to winter feed improved stock changed cattle raising into ranching and reduced its scale. The future lay with small operations of two hundred head or less. These cattle were still seasonally run on the public lands, but they relied on alfalfa and sorghum for the majority of their winter feed. Ranchers also marketed animals more quickly. Because young steers put on weight more rapidly than older cattle, ranchers realized the greatest return on investment by selling steers as soon as their ability to turn feed to fat began to slacken. Eventually, with selective breeding, they could market a steer after only two years. A relatively small herd of improved cattle with a rapid turnover of animals could yield more beef and more profit than the larger herds of the old free-range systems.

As the twentieth century progressed, these reduced operations came to depend on federal permits to run cattle, first in the new national forests and then, after the Taylor Grazing Act of the 1930s, on the remainder of the public domain. Ranchers depended on water from federal projects to fill their irrigation ditches. They raised improved breeds—mainly Herefords—and sent them for fattening to farmers in the corn belt. Corporate control did not vanish; it just became less obvious to outsiders. By the late 1890s, the packinghouses had largely taken over the financing of the cattle industry. The big packinghouses loaned money to commission agents, who loaned it to farmers seeking to buy feeders from the western range. The agents held a mortgage on both the corn and the steer. Long before the steer ever reached Chicago, Kansas City, or Fort Worth, the packers controlled it.

In the late nineteenth and early twentieth centuries, sheep invaded the shrinking domain of cattle. Some of the early boosters had been undifferentiated enthusiasts of grazing animals, and in Montana and elsewhere there were men who ran both sheep and cattle and their range. But on the whole, sheep raisers and cattle raisers competed. Cattle raisers and homesteaders, who resented the presence of tramp sheepmen whose herds consumed grass they wanted for their own cattle and horses, complained that cattle hated the smell of sheep and would not prosper where sheep had grazed. Sharpening this competition was the status of the sheep as an ethnic animal. The owners of sheep were often either immigrants or nonwhites; shepherds were usually Scotsmen, Basques, or Mexican Americans. The Mormons too were often sheep owners; not only were a high proportion of Mormons immigrants, but in the nineteenth-century West, all Mormons were regarded as un-American. To many Anglo-American cattlemen and cowboys, sheep were inferior animals herded by inferior men. The constant care that sheep demanded, the hostility they often created, and their pervasive smell and sound made sheep raising a life utterly without romance.

Yet cattle raisers could not stop the rising tide of sheep. Cattlemen constantly threatened violence; they occasionally slaughtered sheep or burned the haystacks of farmers who sold hay to shepherds; they more rarely killed shepherds. But the numbers of sheep inexorably increased. In New Mexico, the old heartland of sheep, sheep raisers crossbred the *churros* with Merinos, raising the wool yield to four or five pounds, as they found a profitable market for wool in the East. The number of sheep in New Mexico rose to nearly five million in the late 1880s, and their ownership grew even more concentrated. On the upper Rio Grande, Frank Bond and Edward Sargent acquired grazing rights on so much public and private land that many formerly independent *nuevo mexicano* sheep ranchers could not find grazing land and had to sign on as *partidarios* with Bond or Sargent. In Arizona, sheep spilling over from California joined Navajo sheep and Mormon sheep from southern Utah. In northern Arizona, sheep outnumbered cattle ten to one as early as the late 1870s. On the Columbia Plateau, sheep outnumbered cattle four to one in 1890, and by 1900 the more than one million sheep outnumbered cattle eight to one. These sheep were Spanish Merinos and French Rambouillets.

Although cattle raisers did not realize it, their own cattle formed a fifth column paving the way for sheep. As cattle overstocked the ranges and overgrazed the bunchgrasses, they opened up the land to invasion by exotic forbs (that is, nongrasslike herbs). Cattle did not thrive on this weedy growth, but sheep did; in addition, sheep could crop short grasses left behind by cattle. The growth of weedy forbs peaked early, but sheep raisers compensated by adopting a pattern of transhumance, a system of grazing in which herds grazed lowlands in winter and spring when the mountains were covered with snow and then moved into the mountains in the summer as the snow retreated. In the mountains, the sheep, or hoofed locusts as John Muir called them, devastated the mountain pastures.

In the 1880s, sheep raising outside of New Mexico offered poor people the shot at enterprise that the larger cattle companies sought to deny small cattle raisers. In the Columbia Plateau, poor immigrants could work herds on shares, taking minimal pay plus a claim on part of the lamb crop. Sheep required a much smaller initial investment than cattle, and since they matured more quickly, provided quicker returns. They could survive on lands that cattle could not, and they could go much longer without water, thus opening range closed to cattle. The very docility that made them so tempting to predators meant that a single herder and a pair of dogs could control a band of fifteen hundred to three thousand sheep. Their wool was a commodity that could be stored indefinitely, was protected by tariff from foreign competition, and could be harvested annually with little harm to the animal.

But sheep also exacerbated the problems of the open range. Tramp sheep raisers competed with each other, and the only way to keep outfits off a range was, as an observer remarked, "to strip it utterly naked," a practice known as "sheeping off" the range. With the expansion of farming into both the high plains and the Columbia Plateau, and the decision of railroads to ban grazing on their land grants without leases, sheep raisers found their winter ranges constricted; with the creation of national forests, the government began to regulate their use of summer ranges as well. Like cattle raisers before them, sheep raisers found they could not control the open range. Those operations that survived had to turn to leasing lands from the railroads, obtaining grazing permits in the national forests, and purchasing other land to produce hay for winter feed. The capital demands for sheep raising necessarily increased; only those who could meet

them would remain in business. And sheep too, as animals of enterprise, were creatures of the market. The Panic of 1893 and the depression that followed sent wool and mutton prices plummeting to their lowest levels since the Civil War.

When sheep battled cattle for the land, the fight was between two industrial animals—animals whose very bodies, whose genetic makeup, humans had altered through selective breeding to fit their needs and whose every part humans processed into a product. Reshaped, these animals, in turn, reshaped the land. The results of their relentless overgrazing differed from place to place, but everywhere they opened up the land to invasion by other exotic species, everywhere they changed the composition of plant communities, and virtually everywhere they brought increased erosion. The changes varied with the local environments that the animals grazed and with the use or suppression of fire. On the Great Plains, the exotic Russian thistle—the tumbling tumbleweed of the cowboy songs—became such a familiar mark of overgrazing that people came to think of it as a native. In the California mountains, light burning and overgrazing by sheep restricted forest regeneration. In the Southwest, overgrazing by cattle and the banishment of fire led to the expansion of juniper and piñon into what had been grasslands. In the Great Basin, overgrazing eliminated native bunchgrasses, stripping the landscape to stark sage-dominated communities whose missing understory provided a vacuum into which exotics like cheatgrass could expand. In the Sangre de Cristos of New Mexico, native grasses such as Thurber fescue and alpine timothy became mere remnants amid the invading bluegrass and forbs such as yarrow and fleabane.

Industrial Animals and Animals of Leisure

The introduction of large herds of cattle and sheep also threatened wild animals, which now became either competitors with or predators on the domestic livestock. Americans, it is true, regarded game animals as useful in the sense that they provided food, but only temporarily useful. These animals were a resource meant to be used up and replaced by domestic stock. Elk, deer, mountain sheep, and any animal that might make a meal fell before the rifle, the victims of a remarkable slaughter.

The slaughter extended beyond animals that pleased the human palate. The western devotion to making the land as comfortable as possible for cattle and sheep led to a relentless campaign against animals that might make a meal of domestic stock. Stockmen shot wolves on sight, but since wolves prudently learned to avoid the sight of stockmen, ranchers and cowboys resorted to putting strychnine in animal carcasses. In a campaign that continues in some parts of the West to this day, bears, mountain lions, wolves, coyotes, wildcats, and lynxes were poisoned, trapped, and shot. Eventually grizzly bears disappeared over most of the contiguous American West, mountain lions over much of it, and wolves over all of it.

Other animals died not because they ate domestic animals but because they ate grass that domestic animals might eat. In Colorado, between 1 August 1885, and January 1886, the Bartholf brothers killed 1,080 antelope that made the mistake of grazing on "their" range. Ranchers also killed elk, which they claimed made their cattle wild. This kind of slaughter continues today on the ranges of Arizona. The carnage extended even to ground squirrels, pocket gophers, jackrabbits, skunks, hawks, and, above all, prairie dogs. Employing the kind of arithmetic that ranchers, U.S. Biological Survey employees, and later agricultural scientists and Forest Service personnel found irresistible in rearranging the western landscape, Frank Benton calculated that the elimination of one huge prairie dog town in Wyoming could alone provide a home and meals for 180,000 more cattle. Wyoming was shortgrass country, but in tallgrass environments, at least, overgrazing by cattle promoted the expansion of the very prairie dogs that cattlemen tried to eradicate. When grazing was restricted, the prairie dog towns shrank. Neither enterprise nor slaughter always yielded the desired results.

Finally, animals died as an unintentional result of livestock raising. Pronghorn antelopes, for example, could easily move through conventional barbed-wire fences, but close-woven sheep fences confined them. They died cornered in blizzards or confined to forage-depleted ranges.

If the citizens of the newly industrialized Republic had retained a strictly instrumental attitude toward animals, species after species would have yielded to the animals of enterprise. But industrialism created not only an intense pride in what human ingenuity had produced but also an increasing nostalgia and fear over what disappeared with that triumph. The loss was cultural. If game animals vanished, Americans could easily replace their meat, but could they, some began to ask, replace the masculine virtue cultivated by killing game?

Sportsmen, as distinct from hunters, began to argue that a particular kind of virtue—hardiness, bravery, self-reliance—impossible to cultivate in an urban, industrial environment was the true product of the hunt. This attitude arose among an eastern elite, who themselves tended to ape the English, but it diffused downward from elite groups like the Boone and Crockett Club to other hunters. Because such killing sought virtue rather than profit, sportsmen had to engage in a "fair chase" and abide by the "sportsman's code." Sportsmen disdained market or subsistence hunters as mere pothunters, and they struggled to institute and enforce state game laws and bag limits. By the early twentieth century, they had clearly won their battle to protect game populations. By dying so that American males could maintain their virility and virtue, game animals achieved a symbolic utility and a protected status.

Relatively few animals, east or west, qualified as game, but other animals benefited from the rise of middle-class nature appreciation. Nature appreciation usually operated within the same middle- and upper-class milieu as sport hunting but on the opposite side of the gender division. Nature appreciation was thought to be appropriate for women and children, who came to treasure the common experiences of wood and field that urbanization and industrialism made rare. Coupled with nature appreciation was the rise of "animal psychology," which sentimentalized and anthropomorphized wild animals. Animals became lovable—"our friends in fur and feathers," as nature stories put it. During the early 1890s, Ernest Thompson Seton and Charles G. D. Roberts developed the animal story into a special genre for which there was a huge popular appetite. Although nature lovers and hunters arose from common roots and appealed to the same classes, there was a latent conflict between the two groups. Both wanted to save Bambi, but the sportsmen wanted to shoot Bambi when he grew up.

Although a product of industrial society, sport hunting and nature appreciation in one sense opposed that society's instrumentalist tendencies; in another sense, however, they opened up a new basis for the commodification of wild animals. Displaced by

Fellow creatures of leisure, a bear and a tourist meet in Yellowstone National Park, where elk, bear, and buffalo populations reflect deliberate wildlife management policies.

Ellen Todd. Yellowstone Bear and Tourist. *Gelatin silver print, ca. 1935. The Denver Public Library, Western History Department, Denver, Colorado.*

animals of enterprise, wild animals became animals of leisure. And it turned out that deer and other game animals could yield revenues as people consumed them while at play. There were the obvious revenues that the state obtained through license fees, but also the revenues that hunters (and sport hunting became a mass sport in the twentieth century) produced in buying supplies and equipment, in travel, and in obtaining food and lodging. Hunters were armed tourists; keeping them happy meant keeping game populations high enough that they had a likely chance of killing something. All of this gave game animals a commercial value, so that even those skeptical about the cultivation of virtue could see convincing financial reasons for maintaining their populations and introducing new and exotic things for people to shoot at. Hunters, and those who profited from hunters, became the main political and economic supporters of wildlife preservation programs, programs whose results became more apparent as the twentieth century wore on.

Some domestic animals too became animals of leisure. The dog and cat had long ago become leisured, and in the twentieth century the horse, for all practical purposes, joined them. These species were almost wholly consumers, creatures that absorbed wealth and did not produce it. Horses, because of their size and the expense of maintaining them, became a special symbol of status, and in the West, part of that status, and part of their perceived value, came from their connection to the Old West of cowboys, Indians, and overland emigrants. The horse's status as an animal of leisure was far more exalted than that of wild game, since horses were usually neither killed nor consumed.

Only predators and rodents initially resisted classification as either lovable or leisured animals. Before Mickey Mouse, rodents failed to be lovable animals, but despite mass poisoning campaigns by the U.S. Biological Survey, they survived. Large predators were not so lucky. Sport hunters disliked predators because they killed game. Ranchers disliked them because they killed domestic stock. Nature lovers disliked them because they killed cute animals. They were, in the early nature-appreciation literature, cruel and murderous. At the turn of the century, even the Audubon Society recommended the killing of hawks, owls, and foxes. In 1915 the federal government took over the war on predators. The U.S. Biological Survey eliminated the last breeding wolf packs in the Dakotas, Wyoming, Colorado, New Mexico, and Arizona by the 1920s. The ecological effect was to make humans the only predator on some large-game species.

These changes in attitude occurred nationally, but they had particular consequences in the West, which contained the largest amount of remaining animal habitat and the largest reservoirs of remaining wild species. Yellowstone National Park represented perhaps the most extreme version of these consequences. It does not appear that Yellowstone was particularly rich in wild animals before white settlement, but the combination of habitat destruction and overhunting outside the park made it an unintentional haven for game. As the twentieth century wore on, elk, bears, and buffalo began to overshadow the geysers and waterfalls as tourist attractions. Government hunters eliminated wolves within the park, and a ban on hunting eliminated human predation. Elk, in particular, increased and thrived even though the park could not provide the whole herd with a winter range. Although presented as a salvaged remnant of aboriginal America, the park by the late twentieth century came more to resemble a petting zoo with a highway running through it. In Yellowstone the commodification of wild animals was everywhere apparent, and a closer look revealed the damage that elk and bison could do by overgrazing a habitat artificially shaped by park boundaries.

Animals of enterprise and animals of leisure were the two sides of the coin of industrialization in the West of the late nineteenth and early twentieth centuries. There was no escape from a logic of commodification that eventually even commandeered the memories of an older West. Animals became symbols of the lost West, symbols of a freedom and wildness that could, advertisers promised, be acquired if one bought an automobile that was also a Mustang, or a Bronco, or an Eagle. Even manitous—the other-than-human persons, often in the form of animals, that Indians conceived of as giving them the qualities they otherwise lacked—could be commodified and mass-produced. Motorized manitous could deliver other-than-human aid without the necessity of the fasting and self-mutilation required to appeal to the older manitous. These new manitous, of course, were not persons; they were only machines. They evoked the old to expand the new. They, as much as the giant feedlots, genetically engineered cattle, or Yellowstone, represented the logical culmination of the triumph of animals of enterprise in the West.

Dances with Wolves, a movie that reached theaters as the twentieth century entered its last decade, reflected even in its title the symbolic burden that animals had come to bear when Americans thought about the West. The first environmentalist Western, the film reversed all of the verities of enterprise. In the film, white soldiers and pioneers were "bestial" in an older sense: they were filthy and greedy, befouling themselves and everything they touched. Their enterprise was mere slaughter and destruction. Animals, especially horses and of course a wolf, were noble and "human": loyal and self-sacrificing. These were animals from the pages of Ernest Thompson Seton—the great sentimentalist of nature and outdoor life. In its depiction and condemnation of the slaughter of bison and its portrayal of a human-animal relationship that went beyond

utilitarianism, the film seemed to reject the commodification of animals that had so marked the history of enterprise in the American West. And yet, the film itself was a commodity; the audience paid for the sentiments, and the animals were highly trained. Regarded this way, the film was also what it condemned: yet another stage in the evolution of animals of enterprise in the West.

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