

Meanwhile, the kingdom of Spain became united—an event pregnant with destiny—in the late fifteenth century. This new unity resulted primarily from the marriage of two sovereigns, Ferdinand of Aragon and Isabella of Castile, and from the brutal expulsion of the “infidel” Muslim Moors from Spain after centuries of Christian-Islamic warfare. Glorifying in their sudden strength, the Spaniards were eager to outstrip their Portuguese rivals in the race to tap the wealth of the Indies. To the south and east, Portugal controlled the African coast and thus controlled the gateway to the round-Africa water route to India. Of necessity, therefore, Spain looked westward.

### Columbus Comes upon a New World



The stage was now set for a cataclysmic shift in the course of history—the history not only of Europe but of all the world. Europeans clamored for more and cheaper products from the lands beyond the Mediterranean. Africa had been established as a source of cheap slave labor for plantation agriculture. The Portuguese voyages had demonstrated the feasibility of long-range ocean navigation. In Spain a modern national state was taking shape, with the unity, wealth, and power to shoulder the formidable tasks of discovery, conquest, and colonization. The dawn of the Renaissance in the fourteenth century nurtured an ambitious spirit of optimism and adventure. Printing presses, introduced about 1450, facilitated the spread of scientific knowledge. The mariner’s compass, possibly borrowed from the Arabs, eliminated some of the uncertainties of sea travel. Meanwhile, across the ocean, the vast and virgin New World innocently awaited its European discoverers.



Christopher Columbus (1451–1506), by Ridolfo di Domenico Ghirlandaio No portrait from life exists of Columbus, so all likenesses of him, including this one, are somewhat fanciful.

Onto this stage stepped Christopher Columbus. This skilled Italian seafarer persuaded the Spanish monarchs to outfit him with three tiny but seaworthy ships, manned by a motley crew. Daringly, he unfurled the sails of his cockleshell craft and headed westward. His superstitious sailors, fearful of venturing into the oceanic unknown, grew increasingly mutinous. After six weeks at sea, failure loomed until, on October 12, 1492, the crew sighted an island in the Bahamas. A new world thus swam within the vision of Europeans.

Columbus’s sensational achievement obscures the fact that he was one of the most successful failures in history. Seeking a new water route to the fabled Indies, he in fact had bumped into an enormous land barrier blocking the ocean pathway. For decades thereafter explorers strove to get through it or around it. The truth gradually dawned that sprawling new continents had been discovered. Yet Columbus was at first so certain that he had skirted the rim of the “Indies” that he called the native peoples Indians, a gross geographical misnomer that somehow stuck.

Columbus's discovery would eventually convulse four continents—Europe, Africa, and the two Americas. Thanks to his epochal voyage, an interdependent global economic system emerged on a scale undreamed-of before he set sail. Its workings touched every shore washed by the Atlantic Ocean. Europe provided the markets, the capital, and the technology; Africa furnished the labor; and the New World offered its raw materials, especially its precious metals and its soil for the cultivation of sugar cane. For Europeans as well as for Africans and Native Americans, the world after 1492 would never be the same, for better or worse.

### When Worlds Collide



Two ecosystems—the fragile, naturally evolved networks of relations among organisms in a stable environment—commingled and clashed when Columbus waded ashore. The reverberations from that historic encounter echoed for centuries after 1492. The flora and fauna of the Old and New Worlds had been separated for thousands of years. European explorers marveled at the strange sights that greeted them, including exotic beasts such as iguanas and “snakes with castanets” (rattlesnakes). Native New World plants such as tobacco, maize, beans, tomatoes, and especially the lowly potato eventually revolutionized the international economy as well as the European diet, feeding the rapid population growth of the Old World. These foodstuffs were among the most important Indian gifts to the Europeans and to the rest of the world. Perhaps three-fifths of the crops cultivated around the globe today originated in the Americas. Ironically, the introduction into Africa of New World foodstuffs like maize, manioc, and sweet potatoes may have fed an African population boom that numerically, though not morally, more than offset the losses inflicted by the slave trade.

In exchange the Europeans introduced Old World crops and animals to the Americas. Columbus returned to the Caribbean island of Hispaniola (present-day Haiti and the Dominican Republic) in 1493 with seventeen ships that unloaded twelve hundred men and a virtual Noah's Ark of cattle, swine, and horses. The horses soon reached the North American mainland through Mexico and in less than two centuries had spread as far as Canada. North American Indian tribes like the Apaches,

Sioux, and Blackfoot swiftly adopted the horse, transforming their cultures into highly mobile, wide-ranging hunter societies that roamed the grassy Great Plains in pursuit of the shaggy buffalo. Columbus also brought seedlings of sugar cane, which thrived in the warm Caribbean climate. A “sugar revolution” consequently took place in the European diet, fueled by the forced migration of millions of Africans to work the canefields and sugar mills of the New World.

Unwittingly, the Europeans also brought other organisms in the dirt on their boots and the dust on their clothes, such as the seeds of Kentucky bluegrass, dandelions, and daisies. Most ominous of all, in their bodies they carried the germs that caused smallpox, yellow fever, and malaria. Indeed, Old World diseases would quickly devastate the Native Americans. During the Indians' millennia of isolation in the Americas, most of the Old World's killer maladies had disappeared from among them. But generations of freedom from those illnesses had also wiped out protective antibodies. Devoid of natural resistance to Old World sicknesses, Indians died in droves. Within fifty years of the Spanish arrival, the population of the Taino natives in Hispaniola dwindled from some 1 million people to about two hundred. Enslavement and armed aggression took their toll, but the deadliest killers were microbes, not muskets. The lethal germs spread among the

#### The Plant Exchange: New World and Old World Crops

Native American Plants Taken to Europe	Old World Plants Brought to America
American persimmon	apple
beans	beet
bell and hot pepper	cabbage
blueberry	carrot
cranberry	celery
maize (corn)	cucumber
manioc	eggplant
papaya	grapefruit
pineapple	lemon
pumpkin	peach
squash	plum
sweet potato	olive
tobacco	sugar cane
tomato	
white potato	
wild rice	



#### The Devastation of Disease

This engraving of a burial service records the horrendous impact of Old World diseases on the vulnerable Native Americans.

New World peoples with the speed and force of a hurricane, swiftly sweeping far ahead of the human invaders; most of those afflicted never laid eyes on a European. In the century after Columbus's landfall, nearly 90 percent of the Native Americans perished, a demographic catastrophe without parallel in human history. This depopulation was surely not intended by the Spanish; but it was nevertheless so severe that entire cultures and ancient ways of life were extinguished forever. Baffled, enraged, and vengeful, Indian slaves sometimes kneaded tainted blood into their masters' bread, to little effect. Perhaps it was poetic justice that the Indians unintentionally did take a kind of revenge by infecting the early explorers with syphilis, injecting that lethal sexually transmitted disease for the first time into Europe.

# COLUMBUS, THE INDIANS, AND HUMAN PROGRESS

Arawak men and women, naked, tawny, and full of wonder, emerged from their villages onto the island's beaches and swam out to get a closer look at the strange big boat. When Columbus and his sailors came ashore, carrying swords, speaking oddly, the Arawaks ran to greet them, brought them food, water, gifts. He later wrote of this in his log:

They . . . brought us parrots and balls of cotton and spears and many other things, which they exchanged for the glass beads and hawks' bells. They willingly traded everything they owned. . . . They were well-built, with good bodies and handsome features. . . . They do not bear arms, and do not know them, for I showed them a sword, they took it by the edge and cut themselves out of ignorance. They have no iron. Their spears are made of cane. . . . They would make fine servants. . . . With fifty men we could subjugate them all and make them do whatever we want.

As soon as I arrived in the Indies, on the first Island which I found, I took some of the natives by force in order that they might learn and might give me information of whatever there is in these parts.

The information that Columbus wanted most was: Where is the gold? He had persuaded the king and queen of Spain to finance an expedition to the lands, the wealth, he expected would be on the other side of the Atlantic—the Indies and Asia, gold and spices. For, like other informed people of his time, he knew the world was round and he could sail west in order to get to the Far East.

On Hispaniola, out of timbers from the *Santa Maria*, which had run aground, Columbus built a fort, the first European military base in the Western Hemisphere. He called it Navidad (Christmas) and left thirty-nine crewmembers there, with instructions to find and store the gold. He took more Indian prisoners and put them aboard his two remaining ships. At one part of the island he got into a fight with Indians who refused to trade as many bows and arrows as he and his men wanted. Two were run through with swords and bled to death. Then the *Nina* and the *Pinta* set sail for the Azores and Spain. When the weather turned cold, the Indian prisoners began to die.

Columbus's report to the Court in Madrid was extravagant. He insisted he had reached Asia (it was Cuba) and an island off the coast of China (Hispaniola). His descriptions were part fact, part fiction:

Hispaniola is a miracle. Mountains and hills, plains and pastures, are both fertile and beautiful . . . the harbors are unbelievably good and there are many wide rivers of which the majority contain gold. . . . There are many spices, and great mines of gold and other metals. . . .

The Indians, Columbus reported, "are so naïve and so free with their possessions that no one who has not witnessed them would believe it. When you ask for something they have, they never say no. To the contrary, they offer to share with anyone. . . ." He concluded his report by

asking for a little help from their Majesties, and in return he would bring them from his next voyage "as much gold as they need . . . and as many slaves as they ask." He was full of religious talk: "Thus the eternal God, our Lord, gives victory to those who follow His way over apparent impossibilities."

Because of Columbus's exaggerated report and promises, his second expedition was given seventeen ships and more than twelve hundred men. The aim was clear: slaves and gold. They went from island to island in the Caribbean, taking Indians as captives. But as word spread of the Europeans' intent they found more and more empty villages. On Haiti, they found that the sailors left behind at Fort Navidad had been killed in a battle with the Indians, after they had roamed the island in gangs looking for gold, taking women and children as slaves for sex and labor.

Now, from his base on Haiti, Columbus sent expedition after expedition into the interior. They found no gold fields, but had to fill up the ships returning to Spain with some kind of dividend. In the year 1495, they went on a great slave raid, rounded up fifteen hundred Arawak men, women, and children, put them in pens guarded by Spaniards and dogs, then picked the five hundred best specimens to load onto ships. Of those five hundred, two hundred died en route. The rest arrived alive in Spain and were put up for sale by the archdeacon of the town, who reported that, although the slaves were "naked as the day they were born," they showed "no more embarrassment than animals." Columbus later wrote: "Let us in the name of the Holy Trinity go on sending all the slaves that can be sold."

But too many of the slaves died in captivity. And so Columbus, desperate to pay back dividends to those who had invested, had to make good his promise to fill the ships with gold. In the province of Cicao on Haiti, where he and his men imagined huge gold fields to exist, they ordered all persons fourteen years or older to collect a certain quantity of gold every three months. When they brought it, they were given copper tokens to hang around their necks. Indians found without a copper token had their hands cut off and bled to death.

The Indians had been given an impossible task. The only gold around was bits of dust garnered from the streams. So they fled, were hunted down with dogs, and were killed.

Trying to put together an army of resistance, the Arawaks faced Spaniards who had armor, muskets, swords, horses. When the Spaniards took prisoners they hanged them or burned them to death. Among the Arawaks, mass suicides began, with cassava poison.

In Book Two of his *History of the Indies*, Las Casas (who at first urged replacing Indians by black slaves, thinking they were stronger and would survive, but later relented when he saw the effects on blacks) tells about the treatment of the Indians by the Spaniards. It is a unique account and deserves to be quoted at length:

Endless testimonies . . . prove the mild and pacific temperament of the natives. . . . But our work was to exasperate, ravage, kill, mangle and destroy; small wonder, then, if they tried to kill one of us now and then. . . . The admiral, it is true, was blind as those who came after him, and he was so anxious to please the King that he committed irreparable crimes against the Indians. . . .

Las Casas tells how the Spaniards “grew more conceited every day” and after a while refused to walk any distance. They “rode the backs of Indians if they were in a hurry” or were carried on hammocks by Indians running in relays. “In this case they also had Indians carry large leaves to shade them from the sun and others to fan them with goose wings.”

Total control led to total cruelty. The Spaniards “thought nothing of knifing Indians by tens and twenties and of cutting slices off them to test the sharpness of their blades.” Las Casas tells how “two of these so-called Christians met two Indian boys one day, each carrying a parrot; they took the parrots and for fun beheaded the boys.”

The Indians’ attempts to defend themselves failed. And when they ran off into the hills they were found and killed. So, Las Casas reports, “they suffered and died in the mines and other labors in desperate silence, knowing not a soul in the world to whom they could turn for help.”

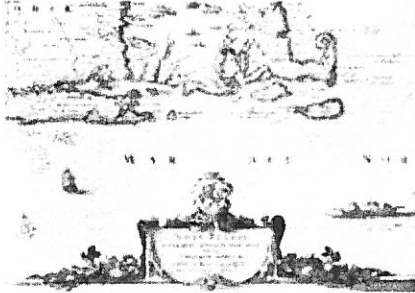
When he arrived on Hispaniola in 1508, Las Casas says, “there were 60,000 people living on this island, including the Indians; so that from 1494 to 1508, over three million people had perished from war, slavery, and the mines. Who in future generations will believe this? I myself writing it as a knowledgeable eyewitness can hardly believe it. . . .”

Thus began the history, five hundred years ago, of the European invasion of the Indian settlements in the Americas. That beginning, when you read Las Casas—even if his figures are exaggerations (were there 3 million Indians to begin with, as he says, or less than a million, as some historians have calculated, or 8 million as others now believe?)—is conquest, slavery, death. When we read the history books given to children in the United States, it all starts with heroic adventure—there is no bloodshed—and Columbus Day is a celebration.

Past the elementary and high schools, there are only occasional hints of something else. Samuel Eliot Morison, the Harvard historian, was the most distinguished writer on Columbus, the author of a multivolume biography, and was himself a sailor who retraced Columbus’s route across the Atlantic. In his popular book *Christopher Columbus, Mariner*, written in 1954, he tells about the enslavement and the killing: “The cruel policy initiated by Columbus and pursued by his successors resulted in complete genocide.”

# The Columbian Exchange

by Alfred Crosby



Detail from a 1682 map of North America, *Novi Belgii Novaeque Angliae*, by Nicholas Visscher. (Gilder Lehrman Collection)

Millions of years ago, continental drift carried the Old World and New Worlds apart, splitting North and South America from Eurasia and Africa. That separation lasted so long that it fostered divergent evolution; for instance, the development of rattlesnakes on one side of the Atlantic and vipers on the other. After 1492, human voyagers in part reversed this tendency. Their artificial re-establishment of connections through the commingling of Old and New World plants, animals, and bacteria, commonly known as the Columbian Exchange, is one of the more spectacular and significant ecological events of the past millennium.

When Europeans first touched the shores of the Americas, Old World crops such as wheat, barley, rice, and turnips had not traveled west across the Atlantic, and New World crops such as maize, white potatoes, sweet potatoes, and manioc had not traveled east to Europe. In the Americas, there were no horses, cattle, sheep, or goats, all animals of Old World origin. Except for the llama, alpaca, dog, a few fowl, and guinea pig, the New World had no equivalents to the domesticated animals associated with the Old World, nor did it have the pathogens associated with the Old World's dense populations of humans and such associated creatures as chickens, cattle, black rats, and *Aedes aegypti* mosquitoes. Among these germs were those that carried smallpox, measles, chickenpox, influenza, malaria, and yellow fever.

The Columbian exchange of crops affected both the Old World and the New. Amerindian crops that have crossed oceans—for example, maize to China and the white potato to Ireland—have been stimulants to population growth in the Old World. The latter's crops and livestock have had much the same effect in the Americas—for example, wheat in Kansas and the Pampa, and beef cattle in Texas and Brazil. The full story of the exchange is many volumes long, so for the sake of brevity and clarity let us focus on a specific region, the eastern third of the United States of America.

As might be expected, the Europeans who settled on the east coast of the United States cultivated crops like wheat and apples, which they had brought with them. European weeds, which the colonists did not cultivate and, in fact, preferred to uproot, also fared well in the New World. John Josselyn, an Englishman and amateur naturalist who visited New England twice in the seventeenth century, left us a list, "Of Such Plants as Have Sprung Up since the English Planted and Kept Cattle in New England," which included couch grass, dandelion, shepherd's purse, groundsel, sow thistle, and chickweeds. One of these, a plantain (*Plantago major*), was named "Englishman's Foot" by the Amerindians of New England and Virginia who believed that it would grow only where the English "have trodden, and was never known before the English came into this country." Thus, as they intentionally sowed Old World crop seeds, the European settlers were unintentionally contaminating American fields with weed seed. More importantly, they were stripping and burning forests, exposing the native minor flora to direct sunlight and to the hooves and teeth of Old World livestock. The

native flora could not tolerate the stress. The imported weeds could, because they had lived with large numbers of grazing animals for thousands of years.

Cattle and horses were brought ashore in the early 1600s and found hospitable climate and terrain in North America. Horses arrived in Virginia as early as 1620 and in Massachusetts in 1629. Many wandered free with little more evidence of their connection to humanity than collars with a hook at the bottom to catch on fences as they tried to leap over them to get at crops. Fences were not for keeping livestock in, but for keeping livestock out.

Native American resistance to the Europeans was ineffective. Indigenous peoples suffered from white brutality, alcoholism, the killing and driving off of game, and the expropriation of farmland, but all these together are insufficient to explain the degree of their defeat. The crucial factor was not people, plants, or animals, but germs. The history of the United States begins with Virginia and Massachusetts, and their histories begin with epidemics of unidentified diseases. At the time of the abortive Virginia colony at Roanoke in the 1580s the nearby Amerindians "began to die quickly. The disease was so strange that they neither knew what it was, nor how to cure it."<sup>[1]</sup> When the Pilgrims settled at Plymouth, Massachusetts, in 1620, they did so in a village and on a coast nearly cleared of Amerindians by a recent epidemic. Thousands had "died in a great plague not long since; and pity it was and is to see so many goodly fields, and so well seated, without man to dress and manure the same."<sup>[2]</sup>

Smallpox was the worst and the most spectacular of the infectious diseases mowing down the Native Americans. The first recorded pandemic of that disease in British North America detonated among the Algonquin of Massachusetts in the early 1630s: William Bradford of Plymouth Plantation wrote that the victims "fell down so generally of this disease as they were in the end not able to help one another, no not to make a fire nor fetch a little water to drink, nor any to bury the dead."<sup>[3]</sup>

The missionaries and the traders who ventured into the American interior told the same appalling story about smallpox and the indigenes. In 1738 alone the epidemic destroyed half the Cherokee; in 1759 nearly half the Catawbans; in the first years of the next century two-thirds of the Omahas and perhaps half the entire population between the Missouri River and New Mexico; in 1837–1838 nearly every last one of the Mandans and perhaps half the people of the high plains.

European explorers encountered distinctively American illnesses such as Chagas Disease, but these did not have much effect on Old World populations. Venereal syphilis has also been called American, but that accusation is far from proven. Even if we add all the Old World deaths blamed on American diseases together, including those ascribed to syphilis, the total is insignificant compared to Native American losses to smallpox alone.

The export of America's native animals has not revolutionized Old World agriculture or ecosystems as the introduction of European animals to the New World did. America's grey squirrels and muskrats and a few others have established themselves east of the Atlantic and west of the Pacific, but that has not made much of a difference. Some of America's domesticated animals are raised in the Old World, but turkeys have not displaced chickens and geese, and guinea pigs have proved useful in laboratories, but have not usurped rabbits in the butcher shops.

The New World's great contribution to the Old is in crop plants. Maize, white potatoes, sweet potatoes, various squashes, chiles, and manioc have become essentials in the diets of hundreds of millions of Europeans, Africans, and Asians. Their influence on Old World peoples, like that of wheat and rice on New World peoples, goes far to explain the global population explosion of the past three centuries. The Columbian Exchange has been an indispensable factor in that demographic explosion.



All this had nothing to do with superiority or inferiority of biosystems in any absolute sense. It has to do with environmental contrasts. Amerindians were accustomed to living in one particular kind of environment, Europeans and Africans in another. When the Old World peoples came to America, they brought with them all their plants, animals, and germs, creating a kind of environment to which they were already adapted, and so they increased in number. Amerindians had not adapted to European germs, and so initially their numbers plunged. That decline has reversed in our time as Amerindian populations have adapted to the Old World's environmental influence, but the demographic triumph of the invaders, which was the most spectacular feature of the Old World's invasion of the New, still stands.

[1] David B. Quinn, ed. *The Roanoke Voyages, 1584–1590: Documents to Illustrate the English Voyages to North America* (London: Hakluyt Society, 1955), 378.

[2] Edward Winslow, Nathaniel Morton, William Bradford, and Thomas Prince, *New England's Memorial* (Cambridge: Allan and Farnham, 1855), 362.

[3] William Bradford, *Of Plymouth Plantation, 1620–1647*, ed. Samuel E. Morison (New York: Knopf, 1952), 271.

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BARTOLOMÉ DE LAS CASAS  
*From Brief Account of the Devastation  
of the Indies*

1542

Yet into this sheepfold, into this land of meek outcasts there came some Spaniards who immediately behaved like ravening wild beasts, wolves, tigers, or lions that had been starved for many days. And Spaniards have behaved in no other way during the past forty years, down to the present time, for they are still acting like ravening beasts, killing, terrorizing, afflicting, torturing, and destroying the native peoples, doing all this with the strangest and most varied new methods of cruelty, never seen or heard of before, and to such a degree that this Island of Hispaniola once so populous (having a population that I estimated to be more than three millions), has now a population of barely two hundred persons.

As for the vast mainland, which is ten times larger than all Spain, even including Aragon and Portugal, containing more land than the distance between Seville and Jerusalem, or more than two thousand leagues, we are sure that our Spaniards, with their cruel and abominable acts, have devastated the land and exterminated the rational people who fully inhabited it. We can estimate very surely and truthfully that in the forty years that have passed, with the infernal actions of the Christians, there have been unjustly slain more than twelve million men, women, and children. In truth, I believe without trying to deceive myself that the number of the slain is more like fifteen million.

Their reason for killing and destroying such an infinite number of souls is that the Christians have an ultimate aim, which is to acquire gold, and to swell themselves with riches in a very brief time and thus rise to a high estate disproportionate to their merits. It should be kept in mind that their insatiable greed and ambition, the greatest ever seen in the world, is the cause of their villainies. And also, those lands are so rich and felicitous, the native peoples so meek and patient, so easy to subject, that our

Spaniards have no more consideration for them than beasts. And I say this from my own knowledge of the acts I witnessed. But I should not say "than beasts" for, thanks be to God, they have treated beasts with some respect; I should say instead like excrement on the public squares.

They attacked the towns and spared neither the children nor the aged nor pregnant women nor women in childbed, not only stabbing them and dismembering them but cutting them to pieces as if dealing with sheep in the slaughter house. They laid bets as to who, with one stroke of the sword, could split a man in two or could cut off his head or spill out his entrails with a single stroke of the pike. They took infants from their mothers' breasts, snatching them by the legs and pitching them headfirst against the crags or snatched them by the arms and threw them into the rivers, roaring with laughter and saying as the babies fell into the water, "Boil there, you offspring of the devil!" Other infants they put to the sword along with their mothers and anyone else who happened to be nearby. They made some low wide gallows on which the hanged victim's feet almost touched the ground,

stringing up their victims in lots of thirteen, in memory of Our Redeemer and His twelve Apostles, then set burning wood at their feet and thus burned them alive. To others they attached straw or wrapped their whole bodies in straw and set them afire. With still others, all those they wanted to capture alive, they cut off their hands and hung them round the victim's neck, saying, "Go now, carry the message," meaning, Take the news to the Indians who have fled to the mountains. They usually dealt with the chieftains and nobles in the following way: they made a grid of rods which they placed on forked sticks, then lashed the victims to the grid and lighted a smoldering fire underneath, so that little by little, as those captives screamed in despair and torment, their souls would leave them. . . .

After the wars and the killings had ended, when usually there survived only some boys, some women, and children, these survivors were distributed among the Christians to be slaves. The repartimiento or distribution was made according to the rank and importance of the Christian to whom the Indians were allocated, one of them being given thirty, another forty, still another, one or two hundred, and besides the rank of the Christian there was also to be considered in what favor he stood with the tyrant they called Governor. The pretext was that these allocated Indians were to be instructed in the articles of the Christian Faith. As if those Christians who were as a rule foolish and cruel and greedy and vicious could be caretakers of souls! And the care they took was to send the men to the mines to dig for gold, which is intolerable labor, and to send the women into the fields of the big ranches to hoe and till the land, work suitable for strong men. Nor to either the men or the women did they give any food except herbs and legumes, things of little substance. The milk in the breasts of the women with infants dried up and thus in a short while the infants perished. And

since men and women were separated, there could be no marital relations. And the men died in the mines and the women died on the ranches from the same causes, exhaustion and hunger. And thus was depopulated that island which had been densely populated.