How spanish conquest in the americas caused an influx of wealth and the little ice age, which dragged everyone down and allowed western countries to take over as predominant world powers.

lots of silver went to spain, caused wars and spread around.
this, along with cold, caused famines and infighting everywhere
Eventually the western states took power?

basically, massive redistribution of wealth and power shifts in the 17th - 19th century

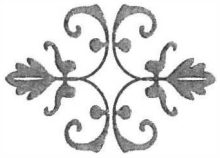
Claims: spainish conquest caused the little ice age, conquest caused the turn of power from eastern to western countries, flow of money tells who has power, mexico city has modern problems

Questions: how did the western countries take power?

how spanish silver spread -> this tells who has power (native americans collapse) -> spanish silver goes to war -> spain economic collapse -> silver floods everywhere -> inflation -> commoners can't afford food and revolt -> little ice age causes -> fewer trees = more mosquitos = malaria = no voluntary workes = slave trade -> mexico city is a jumble of cultures -> silver in china causes debt similar to spain, collapse and new dynasty -> final claim: this all led to western power

1493

Uncovering the New World Columbus Created



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2011

Spain, too, was uneasy about the galleon trade. The annual shipments of silver to Manila were the culmination of a centuries-long quest to trade with China. Nonetheless, Madrid spent almost the entire period trying to limit the exchange. Again and again, royal edicts restricted the number of ships allowed to travel to Manila, cut the amount of allowable exports, set import quotas for Chinese goods, and instructed Spanish merchants to form a cartel to raise prices.

From today's perspective the Spanish discontent is surprising. Both sides gained by the exchange of silk for silver, as economic theory would predict. But it was Europe that emerged in the stronger position. With the galleon trade, declaimed the historian Andre Gunder Frank, "Europeans bought themselves a seat, and then even a whole railway car, on the Asian train." Legazpi's encounter with the Chinese signaled the arrival of the Homogenocene in Asia. And following it, gliding in the slipstream, came the rise of the West.

As close to a monument to globalization as the world is likely to see, this statue to Miguel López de Legazpi and Andrés de Urdaneta, initiators of the silver trade across the Pacific, occupies a little-frequented corner of a park in central Manila.

The statue of Legazpi and Urdaneta was not intended to commemorate any of these ideas or events. It was proposed in 1892 by Manila's Basque community to celebrate the Basque role in the city's history (Legazpi and Urdaneta were Basques, as were many of their men). By the time Catalan sculptor Agustí Querol i Subirats cast the bronze, the United States had seized the Philippines from Spain. The islands' new rulers had little interest in a monument to dead Spaniards; the statue languished at a customs house until 1930, when it was finally erected.

Walking around the monument, I wished that it were larger, given that it is the closest equivalent to a formal commemoration of globalization we have today. I also wished it were more complete. To truly

mark the galleon trade, Legazpi and Urdaneta would have to be surrounded by Chinese merchants: equal partners in the exchange. Such a monument probably will never be built, not least because the worldwide network is still viewed with unease, even by many of its beneficiaries.

Across the street from the monument is another, more popular park, named after José Rizal, a writer, doctor, and martyred anti-Spanish revolutionary who is a national hero in the Philippines. At the center of Rizal Park is a reflecting pool edged with flower gardens and statuary. All the statues are bronze busts on concrete columns. All depict Filipinos who died fighting Spanish rule.

On the side of the pool facing the Legazpi monument is a bust of Rajah Sulayman, identified by a plaque as "the brave Muslim ruler of the kingdom of Maynila (Manila) who refused the offer of 'friendship' by the Spaniards . . . under Miguel Lopez de Legazpi." (Parentheses in original.) Good editors deride fake quotation marks like those around "friendship" as "scare quotes" and tell reporters not to use them. Here they may be merited. Legazpi approached Sulayman soon after encountering the Chinese. The Spaniards wanted to use Manila's harbor as a launching point for the China trade. When Sulayman said he didn't want the Spaniards around, Legazpi leveled his principal village, killing him and three hundred of his fellows. Modern Manila was established on the ruins.

Sulayman and the other people around the pool were, in effect, the first antiglobalization martyrs. They have been awarded a place considerably more prominent than the deserted corner given to Legazpi and Urdaneta. In the end, though, they lost, each and every one of them.

Big speakers mounted on iron columns at the corners of the pool issue bulletins from the redoubts of Classic Rock. Walking around the area, I was nearly run over by a train fashioned into a replica of Thomas the Tank Engine, a children's-book and -television character owned by Apax Partners, a British private-equity firm said to be among the world's largest. Over Thomas's smiling, tooting head I could see the towers of the hotels and banks in Manila's tourist district. The birthplace of globalization looked a lot like many other places. In the Homogenocene, Kentucky Fried Chicken, McDonald's, and Pizza Hut are always just minutes away.

REVERSALS OF FORTUNE

The Homogenocene? A new epoch in the history of life, brought into being by the abrupt creation of a world-spanning economic system? The claim seems grandiose. But imagine a thought experiment: flying around the earth

in 1642, a century and a half after Colón's first voyage, threescore and ten after the first Chinese silk from Manila arrived in Mexico. Think of it as a round-the-world cruise at 35,000 feet of a planet in the first stages of a great disturbance. The brochure promises that the cruise will hit the highlights of the nascent Homogenocene. What will the passengers see?

settlement based on money not feasibility

One answer would be: a world bound together by hoops of Spanish silver. Silver from the Americas is well on its way to doubling or tripling the world's stock of precious metals. Potosí, in what is now southern Bolivia, is the main source—the biggest, richest strike in history. Begin the cruise here, at this central node in the network. Located more than thirteen thousand feet up the Andes, Potosí sits at the foot of an extinct volcano that is as close to a mountain of pure silver as geology allows. Around it is an almost treeless plateau, strewn with glacial boulders, scoured by gelid winds. Agriculture struggles here, and there is no wood for fire. Nonetheless, by 1642 this mining city had become the biggest, densest community in the Americas.

Potosí is a brawling, bawling boomtown marked by extravagant display and hoodlum crime. It is also a murderously efficient mechanism for the extraction and refining of silver ore in appallingly harsh conditions. Indian workers haul the ore on their backs up crude ladders from hundreds of feet below the surface, then extract the silver by mixing the ore with highly toxic mercury. Smelters on the slopes transform the metal into bars of almost pure silver, typically weighing sixty-five pounds and stamped with sigils guaranteeing their quality and authenticity. Other silver is stamped into coins—the Spanish peso is on its way to becoming a de facto world currency, as the U.S. dollar is today. Battalions of llamas—more sure-footed and altitude tolerant than mules and horses—carry the coins and bars down from the mountains, every dangerous step guarded by men with weapons. They hoist the silver onto ships in Arica, on the Chilean coast, which shuttle it to the great port of Lima, seat of the Spanish colonial government. From Lima the silver is loaded onto the first of a series of military convoys that will transport it across the world.

refinery process overview

From the plane, follow the silver fleet as it travels north. To the east of the convoy rise the Andean slopes, gripped in ecological turmoil. Humankind has lived here for many thousands of years, erecting some of the world's first urban complexes in the valleys north of Lima. A hundred and fifteen years before this overflight, smallpox swept in. After it came other European diseases, and then Europeans themselves. Millions died, fearful and suffering, in shattered mountain villages. Now, decades later, slopes terraced and irrigated for centuries remain empty. Shrubs and low trees have overwhelmed abandoned farms. A huge volcanic eruption in 1600 covered central Peru

destruction of previous cultures' buildings/ lives/ homes

with up to three feet of ash and rubble. Four decades later, little has been cleared away. Andean ecosystems have gone feral. Sailing north, the silver fleet is passing something akin to wilderness, at least in patches.

Some of the vessels anchor in Panama, while others go to Mexico. Watching from the plane, observe that the Panamanian silver crosses the isthmus, bound for Europe, whereas most of the Mexican silver is bound ultimately for Asia. How much goes where is the subject of brisk dispute, both by customs officials in 1642 and by historians today. The Spanish monarchy, perpetually hungry for cash, wants the silver in the home country. Spanish colonists want to send as much as possible to China—coins and bars can be traded there more profitably than anywhere else. The tension leads, inevitably, to smuggling. Official statistics suggest that no more than a quarter of the silver went across the Pacific. In the past historians have largely assumed that government scrutiny kept the smuggling to perhaps 10 percent of the total, meaning that the official statistics were roughly correct. A new wave of researchers, however, argues that smuggling was rampant; China sucked up as much as half of the silver. The debate is more than pedantic. One side regards European expansion as the primary motivating force in world affairs; the other views the earth as a single economic unit largely driven by Chinese demand.

Claim: where silver goes indicates who has power in the world

Follow the Europe-bound silver as it is carried by mule train over the mountains to Portobelo, then Panama's main Caribbean port. Guarded by an armada of galleons, bristling with guns and crewed by as many as two thousand seamen and soldiers, the silver traverses the Atlantic every summer, its departure timed to avoid hurricane season. The convoy bellies up to the mouth of the Guadalquivir, Spain's only major navigable river, and then sixty miles upstream to Seville.

spain uses it's new silver for war

Unloaded onto the quays, the chests of treasure are the emblem of a paradox: silver from the Americas has made the Europe of 1642 affluent and powerful beyond its giddiest fantasy. But Europe itself is plagued from one end to the other by war, inflation, rioting, and weather calamities. Turmoil is nothing new in Europe, which is divided by language, culture, religion, and geography. But this is the first time that the turmoil is intimately linked to human actions on opposite ends of the earth. Trouble volleys from Asia, Africa, and the Americas to Europe, shuttling about the world on highways of Spanish silver.

Cortés's conquest of Mexico—and the plunder that came from it—threw Spain's elite into delirium. Enraptured by sudden wealth and power, the monarchy launched a series of costly foreign wars, one overlapping with another, against France, the Ottoman Empire, and the Protestants in the Holy Roman Empire. Even as Spain defeated the Ottomans in 1571, discon-

tent in the Netherlands, then a Spanish possession, was flaring into outright revolt and secession. The struggle over Dutch independence lasted eight decades and spilled into realms as far away as Brazil, Sri Lanka, and the Philippines. Along the way, England was drawn in; raising the ante, Spain initiated a vast seaborne invasion of that nation: the Spanish Armada. The invasion was a debacle, as was the fight to stop rebellion in the Netherlands.

War spawned war. In 1642, Spain is combating secession in Andalusia, Catalonia, and Portugal, which it has ruled for six decades; France is fighting Spain on its northern, eastern, and southern borders; and Swedish armies are battling the Holy Roman Empire. (Emperor Ferdinand III, the son-in-law of one Spanish king and the father-in-law of another, is so closely allied with Spain that he has often been called a Spanish puppet.) Almost the only European nation not directly or indirectly at war with Spain is England, which is convulsed by its own civil strife—the ascetic Puritan rebellion that will soon lead to civil war and the execution of the king.

The world goes to war with spain

The costs are staggering. At the height of the Vietnam War, the United States fielded about 500,000 soldiers. If the U.S. had wanted to send out the same proportion of its men that Spain did in its war with the Dutch, according to Dennis Flynn, an economic historian at the University of the Pacific, it would have had to send *2.5 million*. "Even though all this silver was coming in from Bolivia, Spain didn't have enough money to pay its army in the Netherlands," he told me. "So the men mutinied constantly. I did a count once—there were forty-five mutinies between 1572 and 1607. And that was just *one* of Spain's wars."

sketchy facts?

To pay for its foreign adventures, the court borrowed from foreign bankers; the king felt free to incur debts because he believed they would be covered by future shipments of American treasure, and bankers felt free to lend for the same reason. Alas, everything cost more than the monarch hoped. Debt piled up hugely—ten or even fifteen times annual revenues. Nonetheless the court continued to view its economic policy in the optative mood; few wanted to believe that the good times would end. The inevitable, repeated result: bankruptcy. Spain defaulted on its debts in 1557, 1576, 1596, 1607, and 1627. After each bankruptcy, the king borrowed more money. Lenders would provide it—after all, they could charge high interest rates (Spain paid up to 40 percent, compounded annually). For obvious reasons the high interest rates made the next bankruptcy more likely. Still the process continued—everyone believed the silver would keep pouring into Seville. Now, in 1642, so much silver has been produced that its value is falling even as the mines slacken. The richest nation in the world is hurtling toward financial Armageddon. Europe is complexly interconnected; Spain's economic collapse is dragging down its neighbors.

more expensive than silver could provide, loans -> debt, high intrest, economic collapse dragged down others

The silver trade was not the only cause of this tumult—religious conflict, royal hubris, and struggles among classes all were important—but it was an essential part. The flood of precious metal unleashed by Cortés so vastly increased Spain's money supply that its small financial sector could not contain it. It was as if a billionaire suddenly deposited a fortune into a tiny country bank—the bank would immediately redeposit the cash into other, bigger institutions that could do something with it. American silver overflowed from Spain like water from a bathtub and washed into bank vaults in Italy, the Netherlands, and the Holy Roman Empire. Payments for Spanish military adventures filled coffers across the continent.

money also floods into other places, causes inflation

Economics 101 predicts what will happen in these circumstances. New money chases after the same old goods and services. Prices rise in a classic inflationary spiral. In what historians call a "price revolution," the cost of living more than doubled across Europe in the last half of the sixteenth century, tripling in some places, and then rose some more. Because wages did not keep pace, the poor were immiserated; they could not afford their daily bread. Uprisings of the starving exploded across the continent, seemingly in every corner and all at once. (Researchers have called it the "general crisis" of the seventeenth century.) sketchy

Hope for the peasantry was provided by American crops, which by 1642 have ridden the silver route across the Atlantic. As the plane sweeps over Europe, it descends low enough for passengers to view the marks of the Columbian Exchange: plots of American maize in Italy, carpets of American beans in Spain, fields crowded with the shining, upturned visages of American sunflowers in France. Big tobacco leaves soak up sunlight on Dutch farms; tobacco is so common in Catholic Europe that Pope Urban VIII has this year denounced its use (in Protestant England, it is endorsed even by the nation's most notorious killjoy, Oliver Cromwell). Most important will be the potato, which is beginning to fill bellies in Germany, the Netherlands and, increasingly, Ireland. In ordinary times, the quickly increasing agricultural productivity would soothe some of the discontent caused by inflation and war. But these are not ordinary times: the plane's instruments reveal that the climate itself has been changing.

new crops from the americas, but it doesn't help because everyone is cold

For almost a century Europe has experienced frighteningly snowy winters, late springs, and cold summers. Frigid Mays and Junes delay French wine harvests until November; people walk a hundred miles across the frozen sea from Denmark to Sweden; Greenland hunters moor their kayaks on the Scottish shore. After three failed harvests, Catholic mobs in Ireland rise up, robbing and killing the hated English Protestants—attacks those Protestants use as an opportunity to seize Catholic land. Fearing that growing Alpine glaciers will overrun their homes, Swiss villagers induce their

bishop to exorcise a threatening ice front—an echo of the Spaniards in Santo Domingo, seeking God's help against the plague of ants. Annual visits from the bishop drive back the glacier by eighty paces. The order of the world seems overturned.

somehow it got cold and people were upset and fighting

Historians call the freeze the Little Ice Age. Enduring from about 1550 to about 1750 in the Northern Hemisphere, this global thermal anomaly is difficult to pin down; its onset and duration differed from one region to the next. Because few people then kept written records of weather conditions, paleoclimatologists (researchers of ancient climate) must study it with imperfect measures like the thickness of tree rings and the chemical composition of tiny bubbles of gas in polar ice. Based on such indirect evidence, some researchers proposed that the Little Ice Age was attributable to a decline in the number of sunspots known as the Maunder Minimum. Because sunspots are correlated with the sun's energy output, fewer sunspots implies less-intense solar irradiation—enough, these researchers argued, to cool the earth. Other scientists theorized that the temperature drop was due to big volcanic eruptions, which blast sulfur dioxide into the upper atmosphere. High above the clouds, the sulfur dioxide mixes with water vapor to form minute droplets of sulfuric acid—shiny motes in the sky—that reflect some of the sun's light into space. This phenomenon existed in 1642; a massive eruption in the southern Philippines the year before is now thought to have cooled the earth for as long as three years. Both hypotheses have drawn sharp criticism, though. Many scientists believe that the impact of the Maunder Minimum was too small to account for the Little Ice Age. Others argue that a series of individual volcanic eruptions could not have caused a steady temperature drop.

In 2003, William F. Ruddiman, a paleoclimatologist at the University of Virginia, suggested a different cause for the Little Ice Age—an idea that initially seemed outlandish, but that is increasingly treated seriously.

As human communities grow, Ruddiman pointed out, they open more land for farms and cut down more trees for fuel and shelter. In Europe and Asia, forests were cut with the ax. In the Americas before Colón, the primary tool was fire—vast stretches of it. For weeks on end, smoke from Indian bonfires shrouded Florida, California, and the Great Plains. Today, many researchers believe that without regular burning, much of the midwestern prairie would have been engulfed by an invading tide of trees. The same was true for the grasslands of the Argentine pampas, the hills of Mexico, the Florida dunes, and the high plains of the Andes.

American forests, too, were shaped by flame. Indians' "frequent fiering of the woods," remarked English colonist Edward Johnson in 1654, made the forests east of the Mississippi so open and "thin of Timber" that they were "like our Parkes in England." Annual fire seasons removed scratchy undergrowth, burned out noxious insects, and cleared land for farms. Scientists have conducted fewer studies of burning in the tropics, but two California paleoecologists (scientists who study past ecosystems) surveyed the fire history of thirty-one sites in Central and South America in 2008 and found that in every one the amount of charcoal in the soil—an indicator of fire—had increased substantially for more than two thousand years.

coldness could've been caused by native americans not burning down their forests

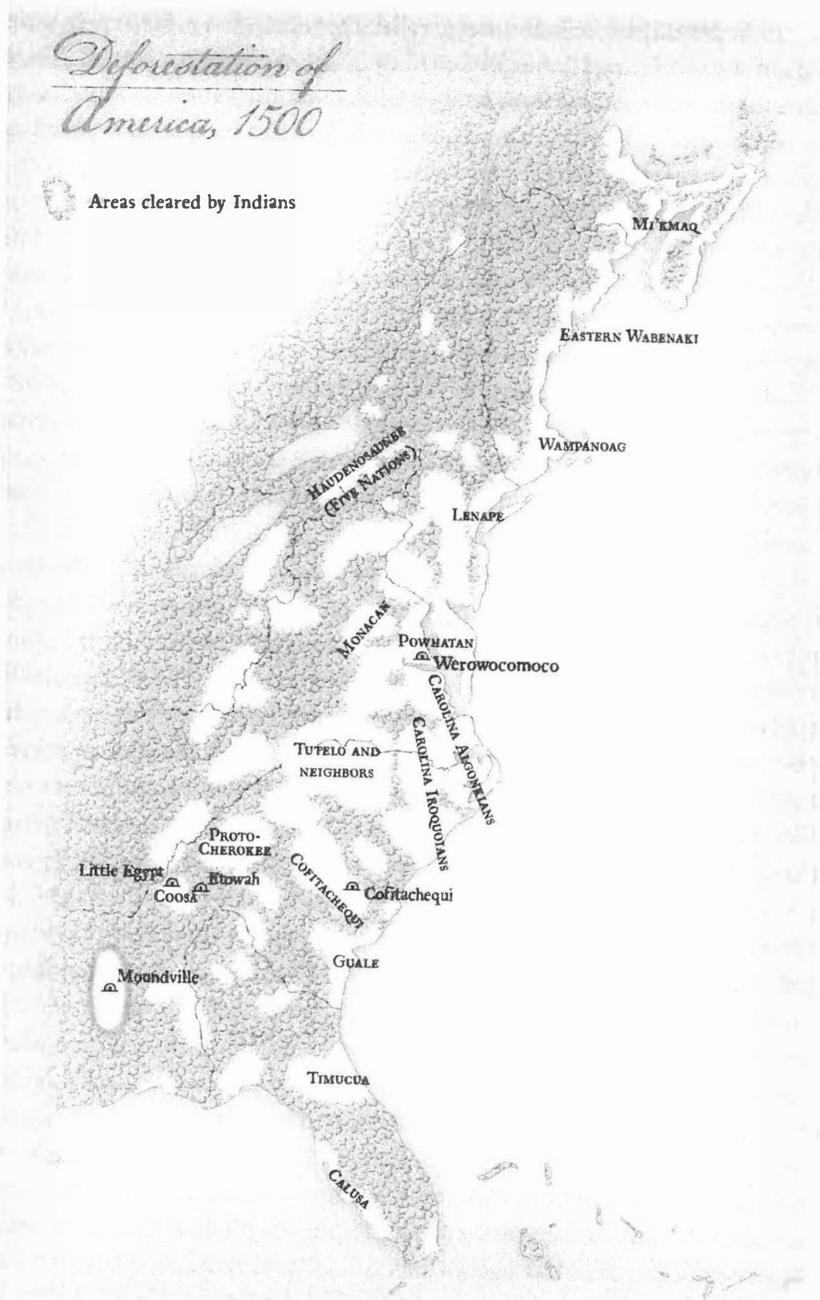
Enter now the Columbian Exchange. Eurasian bacteria, viruses, and parasites sweep through the Americas, killing huge numbers of people—and unraveling the millennia-old network of human intervention. Flames subside to embers across the Western Hemisphere as Indian torches are stilled. In the forests, fire-hating trees like oak and hickory muscle aside fire-loving species like loblolly, longleaf, and slash pine, which are so dependent on regular burning that their cones will only open and release seed when exposed to flame. Animals that Indians had hunted, keeping their numbers down, suddenly flourish in great numbers. And so on.

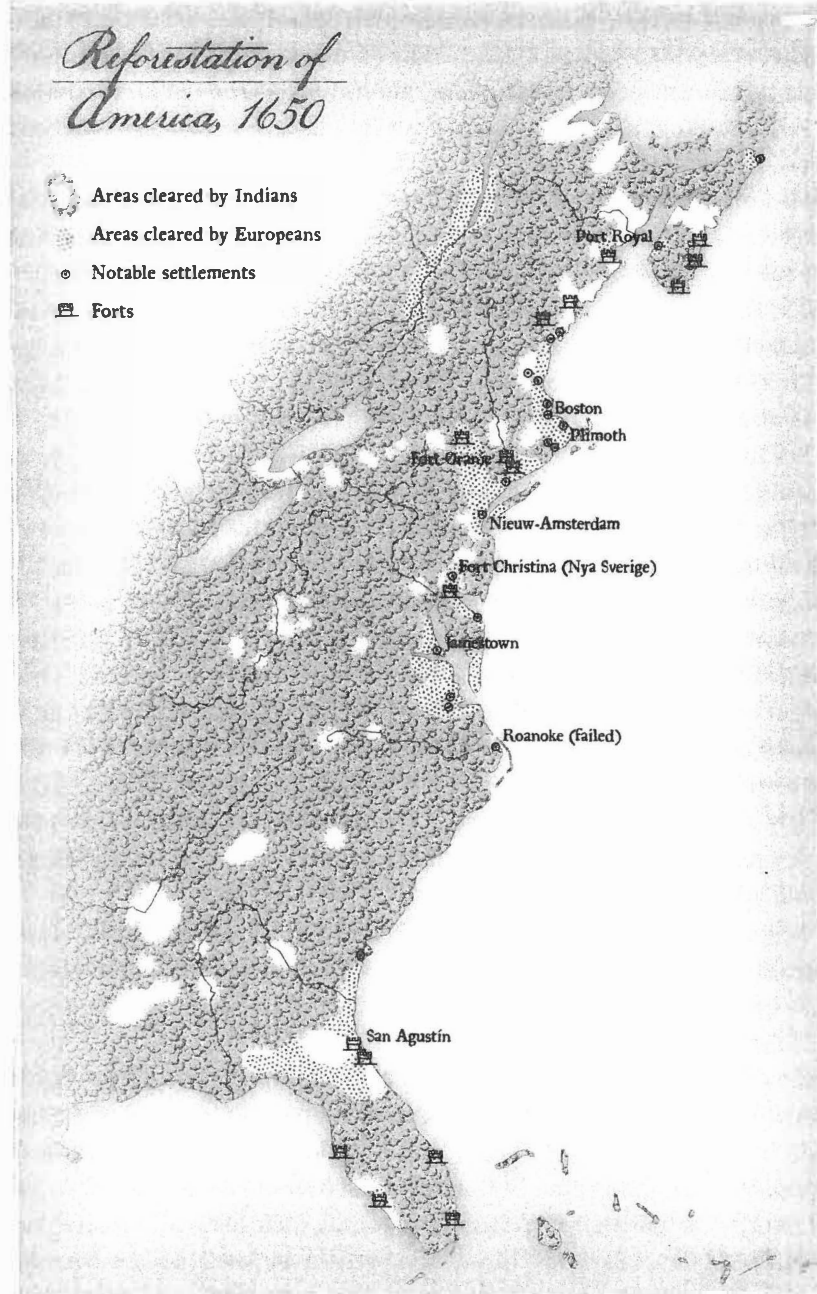
sketchy

Indigenous pyromania had long pumped carbon dioxide into the air. At the beginning of the Homogenocene the pump suddenly grows feeble. Formerly open grasslands fill with forest—a frenzy of photosynthesis. In 1634, fourteen years after the Pilgrims land in Plymouth, colonist William Wood complains that the once-open forests are now so choked with underbrush as to be "unuseful and troublesome to travel through." Forests regenerate across swathes of North America, Mesoamerica, the Andes, and Amazonia.

Ruddiman's idea was simple: the destruction of Indian societies by European epidemics both decreased native burning and increased tree growth. Each subtracted carbon dioxide from the air. In 2010 a research team led by Robert A. Dull of the University of Texas estimated that reforesting former farmland in American tropical regions alone could have been responsible for as much as a quarter of the temperature drop—an analysis, the researchers noted, that did not include the cutback in accidental fires, the return to forest of unfarmed but cleared areas, and the entire temperate zone. In the form of lethal bacteria and viruses, in other words, the Columbian Exchange (to quote Dull's team) "significantly influenced Earth's carbon budget." It was today's climate change in reverse, with human action removing greenhouse gases from the atmosphere rather than adding them—a stunning meteorological overture to the Homogenocene.

Flying the plane back across the Atlantic, the effects of the Little Ice Age are obvious in the Americas, too. Clearly visible from the air is the filling in of Indian lands by forest—and by snow. Ice is solid enough that people ride carriages on Boston harbor; it freezes over most of Chesapeake Bay, and nearly wipes out the two score French colonists who this year have founded Montreal. Introduced cattle and horses die in snowdrifts in Maine, Connecticut,





Using fire, indigenous people in the Americas cleared big areas for agriculture and hunting, as shown in this map of North America's eastern seaboard. European diseases caused a population crash across the hemisphere—and an extraordinary ecological rebound as forests filled in abandoned fields and settlements. The end of native burning and the massive reforestation drew so much carbon dioxide from the air that an increasing number of researchers believes it was a main driver of the three-century cold snap known as the Little Ice Age.

and Virginia. Other impacts are harder to see. The forests are filling in former Indian lands with cold-loving species like hemlock, spruce, and beech. Vernal pools take longer to evaporate in the canopy they provide in these cool summers. Mosquitoes that breed in those pools thus have an increased chance for survival.

Among these paradoxically cold-loving mosquitoes is *Anopheles quadrimaculatus,* the overall name for a complex of five near-indistinguishable sibling species. Like other *Anopheles* mosquitoes, *A. quadrimaculatus* hosts the parasite that causes malaria—the insect's common name is the North American malaria mosquito. Southeast England at this time is rampant with malaria. Precise documentation will never become available, but there is good reason to suspect that by 1642 malaria has already traveled in immigrant bodies from England to the Americas. A single bite into an infected person is enough to introduce the parasite to its mosquito host, which spreads the parasite far and wide. Virginia and points south have already proven so unhealthy for Europeans that plantation overseers are finding it difficult to persuade laborers to come from overseas to work in the tobacco fields.

Some landowners already have resolved this problem by purchasing workers from Africa. Partly driven by the introduction of malaria, a slave market is beginning to quicken into existence, a profitable exchange that will entwine itself over time with the silver market. As ever, the ships from Africa will form a kind of ecological corridor, through which travel passengers not on any official manifest. Crops like yams, millet, sorghum, watermelon, black-eyed peas, and African rice will follow the slave ships to the Americas. So will yellow fever.

Beyond Chesapeake Bay the airplane flies west, heading toward Mexico. Beneath its wings unfurl the Great Plains. From their southern edge come herds of Spanish horses, scores at a time, brought by silver galleons on the return trip across the Atlantic. Apache and Ute race hundreds of miles south to meet the horses, followed by Arapaho, Blackfoot, and Cheyenne. As European villagers learned from Mongol horsemen, peasant farmers, tied to their land, are sitting ducks for cavalry assault. The rush by Indian nations to acquire horses is thus a kind of arms race. All over the North American West and Southwest, native farmers are abandoning their fields and leaping onto the backs of animals from Spain. Long-sedentary societies are becoming wanderers; the "ancient tradition" of the nomadic Plains Indian is coming into existence, a rapid adaptation to the Columbian Exchange.

As natives acquire horses, they come into conflict with each other and the labor force on Spain's expanding ranches. The ranch workers are Indians, African slaves, and people of mixed ancestry. In a kind of cultural panic, the colonial government has created a baroque racial lexicon—mestizo, mulatto,

coyote, *morisco, chino, lobo, zambaigo, albarazado*—to label particular genetic backgrounds. All of these people and more meet in Mexico City, the capital of New Spain, the richest piece of Spain's American empire. Wealthier and more populous than any city in Spain, it is an extraordinary jumble of cultures and languages, with no one group forming the majority. Neighborhoods are divided by ethnicity—one entire barrio is occupied by Tlaxcalans from the east. As the back-and-forth continues, engineers struggle to prevent the city from physical collapse. Mexico City has flooded six times in the last four decades, once remaining inundated for five years. A troubled, teeming, polyglot metropolis with an opulent center and seething ethnic neighborhoods at its periphery that is struggling to fend off ecological disaster—from today's perspective, the Mexico City of 1642 seems strikingly familiar. It is the world's first twenty-first-century city.

The airplane flies west, to Acapulco, on Mexico's Pacific coast, the eastern terminus of the galleon trade. Ringed by protective mountains, untroubled by sandbars or shoals, the harbor is a majestic setting for one of the more listless settlements in the Americas: several hundred huts scattered like lost clothes at the edge of the water. Most of Acapulco's few permanent inhabitants are African slaves, Indian laborers, and Asian sailors who jumped ship (the galleons are mainly crewed by Filipinos, Chinese, and other Asians). When the galleons arrive, Spaniards show up, some of them coming from as far as Peru. A market and fair springs into existence; millions of pesos change hands. Then the town empties again as the ships are beached and readied for the next trip across the Pacific.

Follow the silver to its destination in China. The Little Ice Age has taken hold in East Asia, too, though here the impact is typically less a matter of snow and ice than of crashing, copious rain alternating with bouts of cold drought. The five worst years of drought in five centuries occurred between 1637 and 1641. This year, rain is drowning the crops. All the impacts have been exacerbated by a series of volcano eruptions in Indonesia, Japan, New Guinea, and the Philippines. Millions have died. Cold, wet weather and mass deaths ensure that more than two-thirds of China's farmland is no longer being tilled, adding to the famine. Cannibalism is rumored to be frequent. The Ming court—paralyzed by infighting, preoccupied with wars to the north—does little to help the afflicted. It simply doesn't have the funds. Like the Spanish king, the Ming emperor backs his military ventures with Spanish silver, which his subjects must use to pay their taxes. When the value of silver falls, the government runs out of money.

The Ming have long believed their duty is to protect China from malign foreign influence. They have failed. American crops like tobacco, maize, and sweet potato are spreading over hillsides. American silver is dominating the

economy. Although the emperors don't know it, American trees are helping to bring the rains. All of these are working against the Ming. Popular discontent is already at such levels that mobs of peasant rebels are tearing violently through half a dozen provinces. Unhappy, unpaid soldiers are mutinying. Flood and famine simply exacerbate the anger. In two years Beijing will fall to a rebellious ex-soldier. Weeks later, the soldier will be overthrown by the Manchus, who establish a new dynasty: the Qing (pronounced, roughly speaking, "ching").

When Colón founded La Isabela, the world's most populous cities clustered in a band in the tropics, all but one within thirty degrees of the equator. At the top of the list was Beijing, cynosure of humankind's wealthiest society. Next was Vijayanagar, capital of a Hindu empire in southern India. Of all urban places, these two alone held as many as half a million souls. Cairo, next on the list, was apparently just below this figure. After these three, a cluster of cities were around the 200,000 mark: Hangzhou and Nanjing in China; Tabriz and Gaur in, respectively, Iran and India; Tenochtitlan, dazzling center of the Triple Alliance (Aztec empire); Istanbul (officially Kostantiniyye) of the Ottoman empire; perhaps Gao, leading city of the Songhay empire in West Africa; and, conceivably, Qosqo, where the Inka emperors plotted their next conquests. Not a single European city would have made the list, except perhaps Paris, then expanding under the vigorous rule of Louis XII. Colón's world was centered around hot places, as had been the case since *Homo sapiens* first stared in amazement at the African sky.

Now, a century and a half later, that order is in the midst of change. It is as if the globe has been turned upside down and all the wealth and power are flowing from south to north. The once-lordly metropolises of the tropics are falling into ruin and decrepitude. In the coming centuries, the greatest urban centers will all be in the temperate north: London and Manchester in Britain; New York, Chicago, and Philadelphia in the United States. By 1900 every city in the top bracket will be in Europe or the United States, save one: Tokyo, the most Westernized of eastern cities. From the vantage of an extraterrestrial observer, the change would have seemed shocking; an order that had characterized human affairs for millennia had been overturned, at least for a while.

Today the tumult of ecological and economic exchange is like the background radiation of our ever more crowded and unstable planet. It seems distinctly contemporary to find Japanese loggers in Brazil and Chinese engineers in the Sahel and Europeans backpacking in Nepal or occupying the best tables in New York niteries. But in different ways all of these occurred hundreds of years ago. If nothing else, the events then remind us that we are not alone in our current jumbled condition. It seems worthwhile to take a look at how we got to where we are today.

money defecit causes turn of dynasty

largest cities were aisan/ middle eastern

now they are western

PART ONE

Atlantic Journeys