“1491” by Charles C. Mann (excerpts)

When I went to high school, in the 1970s, I was taught that Indians came to the Americas across the Bering Strait about 12,000 years ago, that they lived for the most part in small, isolated groups, and that they had so little impact on their environment that even after millennia of habitation it remained mostly wilderness. My son picked up the same ideas at his schools. One way to summarize the views of people like Erickson and Balée would be to say that in their opinion this picture of Indian life is wrong in almost every aspect. Indians were here far longer than previously thought, these researchers believe, and in much greater numbers. And they were so successful at imposing their will on the landscape that in 1492 Columbus set foot in a hemisphere thoroughly dominated by humankind.

…historians have long wondered how many people lived in the Americas at the time of contact. "Debated since Columbus attempted a partial census on Hispaniola in 1496," William Denevan has written, this "remains one of the great inquiries of history." (In 1976 Denevan assembled and edited an entire book on the subject, [*The Native Population of the Americas in 1492*](http://www.amazon.com/exec/obidos/ISBN=0299134342/theatlanticmonthA/).) The first scholarly estimate of the indigenous population was made in 1910 by James Mooney, a distinguished ethnographer at the Smithsonian Institution. Combing through old documents, he concluded that in 1491 North America had 1.15 million inhabitants. Mooney's glittering reputation ensured that most subsequent researchers accepted his figure uncritically.

That changed in 1966, when Henry F. Dobyns published "Estimating Aboriginal American Population: An Appraisal of Techniques With a New Hemispheric Estimate," in the journal *Current Anthropology*. Despite the carefully neutral title, his argument was thunderous, its impact long-lasting.

…Dobyns began his exploration of pre-Columbian Indian demography in the early 1950s, when he was a graduate student. At the invitation of a friend, he spent a few months in northern Mexico, which is full of Spanish-era missions. There he poked through the crumbling leather-bound ledgers in which Jesuits recorded local births and deaths. Right away he noticed how many more deaths there were. The Spaniards arrived, and then Indians died—in huge numbers, at incredible rates. It hit him, Dobyns told me recently, "like a club right between the eyes."

It took Dobyns eleven years to obtain his Ph.D. Along the way he joined a rural-development project in Peru, which until colonial times was the seat of the Incan empire. Remembering what he had seen at the northern fringe of the Spanish conquest, Dobyns decided to compare it with figures for the south. He burrowed into the papers of the Lima cathedral and read apologetic Spanish histories. The Indians in Peru, Dobyns concluded, had faced plagues from the day the conquistadors showed up—in fact, before then: smallpox arrived around 1525, seven years ahead of the Spanish. Brought to Mexico apparently by a single sick Spaniard, it swept south and eliminated more than half the population of the Incan empire. Smallpox claimed the Incan dictator Huayna Capac and much of his family, setting off a calamitous war of succession. So complete was the chaos that Francisco Pizarro was able to seize an empire the size of Spain and Italy combined with a force of 168 men.

Smallpox was only the first epidemic. Typhus (probably) in 1546, influenza and smallpox together in 1558, smallpox again in 1589, diphtheria in 1614, measles in 1618—all ravaged the remains of Incan culture. Dobyns was the first social scientist to piece together this awful picture, and he naturally rushed his findings into print. Hardly anyone paid attention. But Dobyns was already working on a second, related question: If all those people died, how many had been living there to begin with? Before Columbus, Dobyns calculated, the Western Hemisphere held ninety to 112 million people. Another way of saying this is that in 1491 more people lived in the Americas than in Europe.

His argument was simple but horrific. It is well known that Native Americans had no experience with many European diseases and were therefore immunologically unprepared—"virgin soil," in the metaphor of epidemiologists. What Dobyns realized was that such diseases could have swept from the coastlines initially visited by Europeans to inland areas controlled by Indians who had never seen a white person. The first whites to explore many parts of the Americas may therefore have encountered places that were already depopulated. Indeed, Dobyns argued, they must have done so.

…So many epidemics occurred in the Americas, Dobyns argued, that the old data used by Mooney and his successors represented population nadirs. From the few cases in which before-and-after totals are known with relative certainty, Dobyns estimated that in the first 130 years of contact about 95 percent of the people in the Americas died—the worst demographic calamity in recorded history.

Dobyns's ideas were quickly attacked as politically motivated, a push from the hate-America crowd to inflate the toll of imperialism. The attacks continue to this day.

…Estimates of the population of North America in 1491 disagree by an order of magnitude—from 18 million, Dobyns's revised figure, to 1.8 million, calculated by Douglas H. Ubelaker, an anthropologist at the Smithsonian. To some "high counters," as David Henige calls them, the low counters' refusal to relinquish the vision of an empty continent is irrational or worse. "Non-Indian 'experts' always want to minimize the size of aboriginal populations," says Lenore Stiffarm, a Native American-education specialist at the University of Saskatchewan. The smaller the numbers of Indians, she believes, the easier it is to regard the continent as having been up for grabs. "It's perfectly acceptable to move into unoccupied land," Stiffarm says. "And land with only a few 'savages' is the next best thing."

"Most of the arguments for the very large numbers have been theoretical," Ubelaker says in defense of low counters. "When you try to marry the theoretical arguments to the data that are available on individual groups in different regions, it's hard to find support for those numbers." Archaeologists, he says, keep searching for the settlements in which those millions of people supposedly lived, with little success. "As more and more excavation is done, one would expect to see more evidence for dense populations than has thus far emerged." Dean Snow, the Pennsylvania State anthropologist, examined Colonial-era Mohawk Iroquois sites and found "no support for the notion that ubiquitous pandemics swept the region." In his view, asserting that the continent was filled with people who left no trace is like looking at an empty bank account and claiming that it must once have held millions of dollars.

…To Elizabeth Fenn, the smallpox historian, the squabble over numbers obscures a central fact. Whether one million or 10 million or 100 million died, she believes, the pall of sorrow that engulfed the hemisphere was immeasurable. Languages, prayers, hopes, habits, and dreams—entire ways of life hissed away like steam. The Spanish and the Portuguese lacked the germ theory of disease and could not explain what was happening (let alone stop it). Nor can we explain it; the ruin was too long ago and too all-encompassing. In the long run, Fenn says, the consequential finding is not that many people died but that many people once lived. The Americas were filled with a stunningly diverse assortment of peoples who had knocked about the continents for millennia. "You have to wonder," Fenn says. "What were all those people *up*to in all that time?"

…When Columbus appeared in the Caribbean, the descendants of the world's two Neolithic civilizations collided, with overwhelming consequences for both. American Neolithic development occurred later than that of the Middle East, possibly because the Indians needed more time to build up the requisite population density. Without beasts of burden they could not capitalize on the wheel (for individual workers on uneven terrain skids are nearly as effective as carts for hauling), and they never developed steel. But in agriculture they handily outstripped the children of Sumeria. Every tomato in Italy, every potato in Ireland, and every hot pepper in Thailand came from this hemisphere. Worldwide, more than half the crops grown today were initially developed in the Americas.

Maize, as corn is called in the rest of the world, was a triumph with global implications. Indians developed an extraordinary number of maize varieties for different growing conditions, which meant that the crop could and did spread throughout the planet. Central and Southern Europeans became particularly dependent on it; maize was the staple of Serbia, Romania, and Moldavia by the nineteenth century. Indian crops dramatically reduced hunger, Crosby says, which led to an Old World population boom.

Along with peanuts and manioc, maize came to Africa and transformed agriculture there, too. "The probability is that the population of Africa was greatly increased because of maize and other American Indian crops," Crosby says. "Those extra people helped make the slave trade possible." …The maize-fed population boom, Crosby believes, let the awful trade continue without pumping the well dry.

Back home in the Americas, Indian agriculture long sustained some of the world's largest cities. The Aztec capital of [Tenochtitlán](http://www.mexicocity.com.mx/anc_city.html" \t "outlink) dazzled Hernán Cortés in 1519; it was bigger than Paris, Europe's greatest metropolis. The Spaniards gawped like hayseeds at the wide streets, ornately carved buildings, and markets bright with goods from hundreds of miles away. They had never before seen a city with botanical gardens, for the excellent reason that none existed in Europe. The same novelty attended the force of a thousand men that kept the crowded streets immaculate. (Streets that weren't ankle-deep in sewage! The conquistadors had never heard of such a thing.) Central America was not the only locus of prosperity. Thousands of miles north, John Smith, of Pocahontas fame, visited Massachusetts in 1614, before it was emptied by disease, and declared that the land was "so planted with Gardens and Corne fields, and so well inhabited with a goodly, strong and well proportioned people ... [that] I would rather live here than any where."

Smith was promoting colonization, and so had reason to exaggerate. But he also knew the hunger, sickness, and oppression of European life. France—"by any standards a privileged country," according to its great historian, Fernand Braudel—experienced seven nationwide famines in the fifteenth century and thirteen in the sixteenth. Disease was hunger's constant companion. During epidemics in London the dead were heaped onto carts "like common dung" (the simile is Daniel Defoe's) and trundled through the streets. The infant death rate in London orphanages, according to one contemporary source, was 88 percent. Governments were harsh, the rule of law arbitrary. The gibbets poking up in the background of so many old paintings were, Braudel observed, "merely a realistic detail."

*The Earth Shall Weep*, James Wilson's history of Indian America, puts the comparison bluntly: "the western hemisphere was larger, richer, and more populous than Europe." Much of it was freer, too. Europeans, accustomed to the serfdom that thrived from Naples to the Baltic Sea, were puzzled and alarmed by the democratic spirit and respect for human rights in many Indian societies, especially those in North America. In theory, the sachems of New England Indian groups were absolute monarchs. In practice, the colonial leader Roger Williams wrote, "they will not conclude of ought ... unto which the people are averse."

Pre-1492 America wasn't a disease-free paradise, Dobyns says, although in his "exuberance as a writer," he told me recently, he once made that claim. Indians had ailments of their own, notably parasites, tuberculosis, and anemia. The daily grind was wearing; life-spans in America were only as long as or a little longer than those in Europe, if the evidence of indigenous graveyards is to be believed. Nor was it a political utopia—the Inca, for instance, invented refinements to totalitarian rule that would have intrigued Stalin. Inveterate practitioners of what the historian Francis Jennings described as "state terrorism practiced horrifically on a huge scale," the Inca ruled so cruelly that one can speculate that their surviving subjects might actually have been better off under Spanish rule.

I asked seven anthropologists, archaeologists, and historians if they would rather have been a typical Indian or a typical European in 1491. None was delighted by the question, because it required judging the past by the standards of today—a fallacy disparaged as "presentism" by social scientists. But every one chose to be an Indian. Some early colonists gave the same answer. Horrifying the leaders of Jamestown and Plymouth, scores of English ran off to live with the Indians. My ancestor shared their desire, which is what led to the trumped-up murder charges against him—or that's what my grandfather told me, anyway.

As for the Indians, evidence suggests that they often viewed Europeans with disdain. The Hurons, a chagrined missionary reported, thought the French possessed "little intelligence in comparison to themselves." Europeans, Indians said, were physically weak, sexually untrustworthy, atrociously ugly, and just plain dirty. (Spaniards, who seldom if ever bathed, were amazed by the Aztec desire for personal cleanliness.) A Jesuit reported that the "Savages" were disgusted by handkerchiefs: "They say, we place what is unclean in a fine white piece of linen, and put it away in our pockets as something very precious, while they throw it upon the ground." The Micmac scoffed at the notion of French superiority. If Christian civilization was so wonderful, why were its inhabitants leaving?

Like people everywhere, Indians survived by cleverly exploiting their environment. Europeans tended to manage land by breaking it into fragments for farmers and herders. Indians often worked on such a grand scale that the scope of their ambition can be hard to grasp. They created small plots, as Europeans did (about 1.5 million acres of terraces still exist in the Peruvian Andes), but they also reshaped entire landscapes to suit their purposes. A principal tool was fire, used to keep down underbrush and create the open, grassy conditions favorable for game. Rather than domesticating animals for meat, Indians retooled whole ecosystems to grow bumper crops of elk, deer, and bison. The first white settlers in Ohio found forests as open as English parks—they could drive carriages through the woods. Along the Hudson River the annual fall burning lit up the banks for miles on end; so flashy was the show that the Dutch in New Amsterdam boated upriver to goggle at the blaze like children at fireworks. In North America, Indian torches had their biggest impact on the Midwestern prairie, much or most of which was created and maintained by fire. Millennia of exuberant burning shaped the plains into vast buffalo farms. When Indian societies disintegrated, forest invaded savannah in Wisconsin, Illinois, Kansas, Nebraska, and the Texas Hill Country. Is it possible that the Indians changed the Americas more than the invading Europeans did? "The answer is probably yes for most regions for the next 250 years or so" after Columbus, William Denevan wrote, "and for some regions right up to the present time."

As you read the excerpts of the article “1491” by Charles Mann, answer the following questions:

1. According to Henry Dobyns, how many Native Americans lived in the Americas in 1491? How did he arrive at this estimate? How did this estimated population compare to that of Europe?
2. The “facts” of history, like other disciplines, are often debated. Why were Dobyn’s ideas controversial? What arguments are made to refute his ideas? What could be motivations for over- or under-estimating the population of natives?
3. How did crops developed first by Native Americans affect the continents of Europe and Africa?
4. What evidence suggests that in many ways the peoples of North America were more advanced than the people of Europe?
5. It was traditionally argued that the Native Americans adapted to but did not change their physical environment. Explain why this idea is inaccurate. How did the actions of Native Americans enable European settlement of North America?