

U.S. History I AP

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## **Summer Reading – 1491 by Charles C. Mann**

### **Chapter 4 – *Frequently Asked Questions: Not Enough for Yankee Stadium***

On May 30, 1539, Hernando De Soto landed his private army near Tampa Bay in Florida. De Soto was a novel figure: half warrior, half venture capitalist. He grew very rich very young in Spanish America by becoming a market leader in the nascent slave trade. The profits helped to fund the conquest of the Inka, which made De Soto wealthier still. He accompanied Pizarro to Tawantinsuyu, burnishing his reputation for brutality—he personally tortured Challcochima, Atawallpa’s chief general, before his execution. Literally looking for new worlds to conquer, De Soto returned to Spain soon after his exploits in Peru. In Charles V’s court he persuaded the bored monarch to let him loose in North America with an expedition of his own. He sailed to Florida with six hundred soldiers, two hundred horses and three hundred pigs.

From today’s perspective, it is difficult to imagine the ethical system that could justify De Soto’s subsequent actions. For four years his force wandered through what are now Florida, Georgia, North and South Carolina, Tennessee, Alabama, Mississippi, Arkansas, Texas and Louisiana, looking for gold and wrecking most everything it touched. The inhabitants often fought back vigorously but they were baffled by the Spaniard’s motives and astounded by the sight and sound of horses and guns. De Soto died of fever with his expedition in ruins. Along the way, though, he managed to rape, torture, enslave and kill countless Indians. But the worst thing he did, some researchers say, was entirely without malice—he brought pigs.

According to Charles Hudson, an anthropologist at the University of Georgia who spent fifteen years reconstructing De Soto’s path, the expedition built barges and crossed the Mississippi a few miles down-stream from the present site of Memphis. It was a nervous time: every afternoon, one of his force later recalled, several thousand Indian soldiers approached in canoes to within “a stone’s throw” of the Spanish and mocked them as they labored. The Indians, “painted with ochre,” wore “plumes of many colors, having feathered shields in their hands, with which they sheltered the oarsmen on either side, the warriors standing erect from bow to stern, holding bows and arrows.” Utterly without fear, De Soto ignored the taunts and occasional volleys of arrows and poled over the river into what is now eastern Arkansas, a land “thickly set with great towns,” according to the soldier’s account, “two or three of them to be

seen from one.” Each city protected itself with earthen walls, sizable moats and dead-eye archers. In his brazen fashion, De Soto marched right in, demanded food and marched out.

After De Soto left, no Europeans visited this part of the Mississippi Valley for more than a century. Early in 1682, foreigners appeared again, this time Frenchmen in canoes. In one seat was Rene-Robert Cavelier, Sieur de la Salle. La Salle passed through the area where De Soto had found cities cheek by jowl. It was deserted—the French didn’t see an Indian village for two hundred miles. About fifty settlements existed in this strip of the Mississippi when De Soto showed up, according to Anne Ramenofsky, an archeologist at the University of New Mexico. By La Salle’s time the number had shrunk to perhaps ten, some probably inhabited by recent immigrants. De Soto “had a privileged glimpse” of an Indian world, Hudson told me. “The window opened and slammed shut. When the French came in and the record opened up again, it was a transformed reality. A civilization crumbled. The question is, how did this happen?”

Today most historians and anthropologists believe the culprit was disease. In the view of Ramenofsky and Patricia Galloway, an anthropologist at the University of Texas, the source of contagion was very likely not De Soto’s army but its ambulatory meat locker: his three hundred pigs. De Soto’s company was too small to be an effective biological weapon. Sickneses like measles and smallpox would have burned through his six hundred men long before they reached the Mississippi. But that would not have been true for his pigs.

Pigs were as essential to the conquistadors as horses. Spanish armies traveled in a porcine cloud; drawn by the supper trough, the lean, hungry animals circled the troops like darting dogs. Neither species regarded the arrangement as novel; they had lived together in Europe for millennia. When humans and domesticated animals share quarters, they are constantly exposed to each other’s microbes. Over time mutation lets animal diseases jump to people: avian influenza becomes human influenza, bovine rinderpest becomes human measles, horsepox becomes human smallpox. Unlike Europeans, Indians did not live in constant contact with many animals. They domesticated only the dog; the turkey (in Mesoamerica); and the llama, the alpaca, the Muscovy duck and the guinea pig (in the Andes). In some ways this is not surprising: the New World had fewer animal candidates for taming than the Old. Moreover, few Indians carry the gene that permits adults to digest lactose, a form of sugar abundant in milk. Non-milk drinkers, one imagines, would be less likely to work at domesticating milk-giving animals. But this is guesswork. The fact is that what scientists call zoonotic disease was little known in the Americas. By contrast, swine, mainstays of European agriculture, transmit anthrax, brucellosis, leptospirosis, trichinosis and tuberculosis. Pigs breed exuberantly and can pass

diseases to deer and turkeys, which can infect people. Only a few of De Soto's pigs would have had to wander off to contaminate the forest.

The calamity wreaked by the De Soto expedition, Ramenofsky and Galloway argued, extended across the whole Southeast. The societies of the Caddo, on the Texas-Arkansas border, and the Coosa in western Georgia, both disintegrated soon after. The Caddo had a taste for monumental architecture: public plazas, ceremonial platforms, mausoleums. After De Soto's army left the Caddo stopped erecting community centers and began digging community cemeteries. Between the visits of De Soto and La Salle, according to Timothy K. Perttula, an archaeological consultant in Austin, Texas, the Caddoan population fell from about 200,000 to about 8,500—a drop of nearly 96 percent. In the eighteenth century, the tally shrank further, to 1,400. An equivalent loss today would reduce the population of New York City to 56,000, not enough to fill Yankee Stadium. “That’s one reason whites think of Indians as nomadic hunters,” Russell Thornton, an anthropologist at the University of California at Los Angeles, said to me. “Everything else—all the heavily populated urbanized societies—was wiped out.”

Could a few pigs truly wreak this much destruction? Such apocalyptic scenarios have invited skepticism since Henry Dobyns first drew them to wide attention. After all, no eyewitness accounts exist of the devastation—none of the peoples in the Southeast had any form of writing known today. Spanish and French narratives cannot be taken at face value, and in any case say nothing substantial about disease. (The belief that epidemics swept through the Southeast comes less from European accounts of the region than from the disparities among those accounts.) Although the archaeological record is suggestive, it is also frustratingly incomplete; soon after the Spaniards visited, mass graves became more common in the Southeast, but there is yet no solid proof that a single Indian in them died of a pig-transmitted disease. Asserting that De Soto's visit caused the subsequent collapse of the Caddo and Coosa may be only the old logical fallacy of *post hoc ergo propter hoc* which means an argument is created using erroneous reasoning that since one event occurred before another, the first event must have caused the second event.

Not only do archaeologists like Dobyns, Perttula and Ramenofsky argue that unrecorded pandemics swept through the Americas, they claim that the diseases themselves were of unprecedented deadliness. As a rule, viruses, microbes and parasites do not kill the majority of their victims—the pest that wipes out its host species has a bleak evolutionary future. The influenza epidemic of 1918, until AIDS the greatest epidemic of modern times, infected tens of millions around the world but killed fewer than 5 percent of its victims. Even the Black Death, a symbol of virulence, was not as deadly as these epidemics are claimed to be. The first European incursion of the Black Death, in 1347-51, was a classic virgin-soil epidemic; mutation

had just created the pulmonary version of the bacillus *Yersinia pestis* (the bacteria that causes plague). But even then the disease killed perhaps a third of its victims. The Indians in De Soto's path, if researchers are correct, endured losses that were anomalously greater. How could this be true? the skeptics ask.

Consider too, the Dobynsesque procedure for recovering original population numbers: applying an assumed death rate, usually 95 percent, to the observed population nadir. According to Douglas H. Ubelaker, an anthropologist at the Smithsonian's National Museum of Natural History, the population nadir for Indians north of the Rio Grande was around 1900, when their numbers fell to about half a million. Assuming a 95 percent death rate (which Ubelaker, a skeptic, does not), the precontact population of North America would have been 10 million. Go up one percent to a 96 percent death rate and the figure jumps to 12.5 million-creating more than two million people arithmetically from a tiny increase in mortality rates. At 98 percent, the number bounds to 25 million. Minute changes in baseline assumptions produce wildly different results.

Worse, the figures have enormous margins of error. Rudolph Zambardino, a statistician at North Staffordshire Polytechnic, in England, has pointed out that the lack of direct data forces researchers into salvos of extrapolation. To approximate the population of sixteenth-century Mexico, for example, historians have only the official counts of *casados* (householders) in certain areas. To calculate the total population, they must adjust that number by the estimated average number of people in each home, the estimated number of homes not headed by a *casado* (and thus not counted), the estimated number of *casados* missed by census takers, and so on. Each one of these factors has a margin of error. Unfortunately, as Zambardino noted, "the errors multiply each other and can escalate rapidly to an unacceptable magnitude." If researchers presented their estimates with the proper error bounds, he said, they would see that the spread is far too large to constitute "a meaningful quantitative estimate."

Extraordinary claims require extraordinary evidence, scientists say. Other episodes of mass fatality are abundantly documented: the Black Death in Europe, the post-collectivization famine in the Soviet Union, even the traffic in African slaves. Much less data support the notion that Old World bacteria and viruses turned the New World into an abattoir (a slaughterhouse). Such evidence as can be found lies scribbled in the margins of European accounts-it is, as Crosby admitted, "no better than impressionistic."

“Most of the arguments for the very large numbers have been theoretical,” Ubelaker told me. “But 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 said, keep searching for the settlements in which those millions of people supposedly lived. “As more and more excavations are done, one would expect to see more evidence for [dense populations] than has thus far emerged.” Dean R. Snow, of Pennsylvania State, repeatedly examined precontact sites in eastern New York and found “no support for the notion that ubiquitous pandemics swept the region.” In the skeptics’ view, Dobyns, and other High Counters (as proponents of large pre-Columbian numbers have been called) are like people who discover an empty bank account and claim from its very emptiness that it once contained millions of dollars. Historians who project large Indian populations, Low Counter critics say, are committing the intellectual sin of arguing from silence.

Given these convincing rebuttals, why have the majority of researchers nonetheless become High Counters? In arguing that Indians died at anomalously high rates from European diseases, are researchers claiming that they were somehow uniquely vulnerable? Why hypothesize the existence of vast, super-deadly pandemics that seem unlike anything else in the historical record? The speed and scale of the projected losses “boggle the mind,” observed Colin G. Calloway, a historian at Dartmouth—one reason, he suggested, that researchers were so long reluctant to accept them. Indeed, how *can* one understand losses of such unparalleled scope? And if the European entrance into the Americas five centuries ago was responsible for them, what moral reverberations does this have today?

### **ASSIGNMENT:**

You are to read the article above and answer the 3 questions below. The answers to these questions requires thought, analysis and detail which means these are not short answers. Each question must be answered in 3-5 well written paragraphs and they must also be typed, 12 font and double-spaced. This assignment will be due in class, Tuesday, September 8<sup>th</sup> and is worth a 50 point quiz grade. Please DO NOT share your answers with me—your work will be coming to class with you. If you have any questions, please contact me at [fduryea@lvhs.org](mailto:fduryea@lvhs.org).

### **QUESTIONS:**

1. When Spanish explorer Hernando De Soto brought pigs along on his expedition in order to feed himself and his men, the pigs carried microbes that apparently wiped out the Indian populations in the Southeastern part of the current United States. While this episode illustrates

the haphazard quality of biological devastation, how does it also connect 1491 to our contemporary world in which the media reports daily on scientist's fear of diseases?

2. In our present global environment, are we as vulnerable as the Indian tribes discussed by the author?

3. Are there, as the author suggests, moral reverberations to be felt as a result of the European entrance into the Americas five centuries ago?