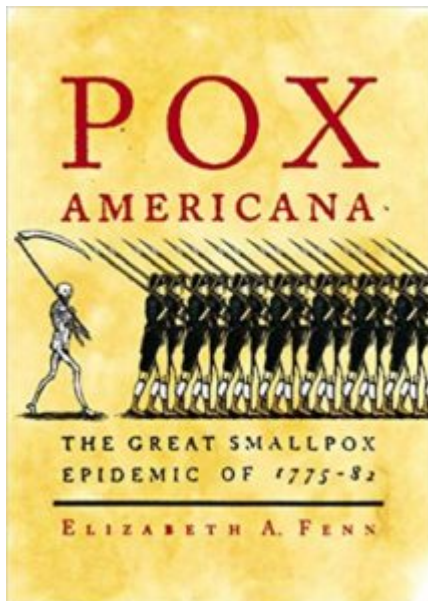
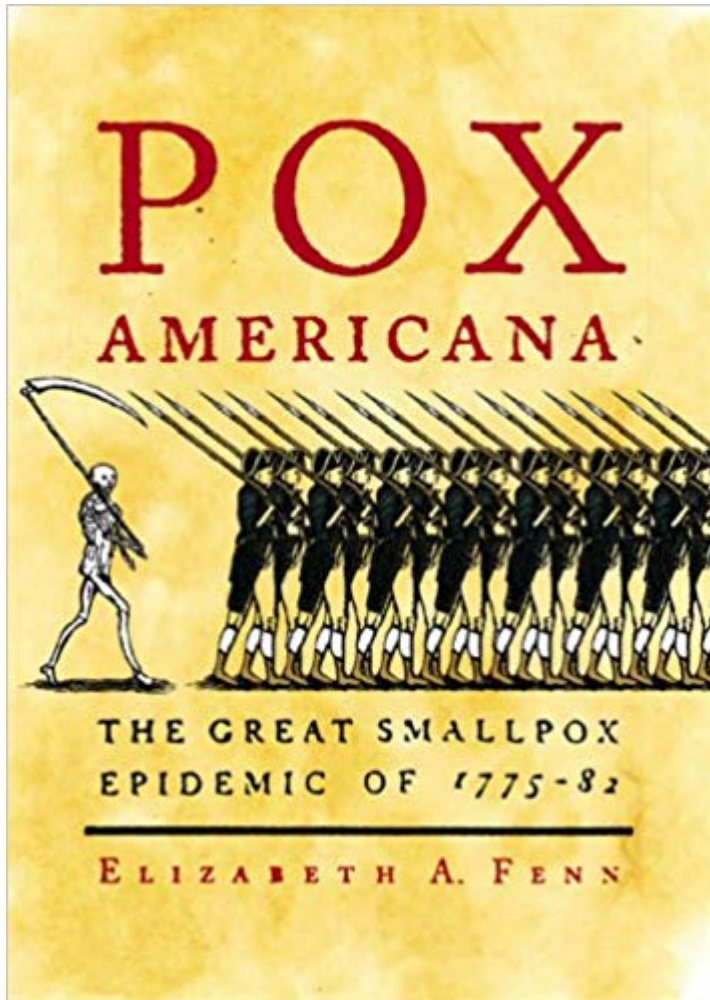


The Imperial Virus



Elizabeth Fenn, *Pox Americana: The Great Smallpox Epidemic of 1775-82*. New York, N.Y., Hill & Wang Publishers, 2001. 372 pp. \$25.00 cloth.

From the Black Death in medieval Europe to the AIDS crisis in twenty-first-century Africa, disease has been such a major factor in human history that, paradoxically, historians have seldom bothered to trace its precise impact on military and political events. They simply *know* that medical catastrophes were earthshaking and thus—in works such as William H. McNeill's *Plagues and Peoples* (Garden City, N.Y., 1976), Alfred W. Crosby's *Columbian Exchange* (Westport, Conn., 1972) and *Ecological Imperialism* (New York, 1986), or Jared Diamond's *Guns, Germs, and Steel* (New York, 1997)—tend to place them in the huge sweep of global experience without spending much time on particulars.

Students of disease in colonial North America are no exception. For a quarter century, thanks largely to McNeill and Crosby, they have understood the horrific impact of European viral diseases such as smallpox on Native Americans after 1492; East of the Mississippi, Indian numbers declined by seventy-five to ninety-five percent by 1800. They assume that medical carnage on such a scale shaped the struggle between Europeans and Natives for control of the continent, but with rare exceptions convey only the haziest sense of how disease shaped specific episodes in the continent's history. Against this background of vague generalities, Elizabeth Fenn's exhaustive study of the smallpox epidemics that raged throughout North America between 1775 and 1782 is particularly welcome. Far more than a chronicle of when and where disease struck, *Pox Americana* demonstrates why it mattered and how it influenced great events.

Fenn begins with perhaps the best explanation a layperson will ever see of how smallpox attacks the human body and why it was such a particular threat to anyone, of any ethnicity, born in eighteenth-century North America. Once the smallpox virus, *Variola major*, infected a human being, its host either died or became immune for life. To survive, therefore, *Variola* needed a constant pool of new victims. In the urban centers of Europe, Africa, and Asia where smallpox evolved, those victims were usually children, who, if they endured the ordeal, acquired the lifetime immunity most adults enjoyed.

The situation in North America was profoundly different. In the period of initial contacts with Europeans, Native Americans lacked any exposure at all to *Variola*; when it arrived in a given locality, virtually the entire population was likely to be infected, with a mortality rate usually estimated at about fifty percent, but revised downward by Fenn to a still-frightening thirty to forty percent. By the eighteenth century, few populations in North America, except perhaps the Northwest Coast and Alaska, could still be described as "virgin soil" for *Variola*. Yet nowhere on the continent was the virus able to establish equilibrium with human beings and become endemic. As a result, it tended to attack in periodic waves, each time encountering vast numbers of susceptible bodies, old and young, Indian, European, and African alike.

Before Edward Jenner's 1796 discovery that vaccination with the virtually harmless cowpox virus conferred immunity to smallpox, the only known preventative was "variolation," the deliberate introduction of material from smallpox pustules into a cut in the patient's skin. For reasons still unknown, this usually led to a relatively—but only relatively—mild version of the disease, followed by lifetime immunity. Yet patients still faced days of debilitating illness and a substantial risk of mortality, all sometimes made worse by physicians who insisted on a preparatory diet limited to milk, water, and mercury. Moreover, those with whom the patient came into contact could contract a full-fledged case. No wonder variolation was so controversial and frequently declared illegal by local authorities. And, as Fenn explains, the high monetary cost of variolation—two to five pounds—added an element of class conflict to the opposition. Treatment was not only confined to the elite who could afford it but put the rest of the population at greater risk.

Most of this, specialists already know—although Fenn adds many nuances to the story and opens it to a wide audience. Her real contributions come as she traces the chain of smallpox outbreaks that coincided with the American Revolution, how those outbreaks affected the military struggle between the rebels and the empire, and why it was no coincidence that the two events occurred at the same time. "Armies were formed. Meetings were held. People gathered and dispersed repeatedly," she observes. "For a virus that needs a constant supply of new, unexposed human beings to thrive, conditions were perfect" (45-46).

During the British occupation of Boston in 1775-76, smallpox repeatedly flared up in the city and, Fenn argues, in different ways became a military preoccupation of both sides. The vast majority of British troops had been exposed to smallpox as children; the city's occupiers need only identify and variolate the susceptible minority. By contrast, the bulk of Continentals were vulnerable; a variolation campaign would not only place lives at risk but leave the troops virtually defenseless during the course of treatment. General Washington subsequently attempted to avoid such dangers by quarantining new recruits for variolation before they joined the main body of his army. But before that system was in place, smallpox profoundly influenced the 1775-76 invasion of Canada. A growing number of sick and dying soldiers explained both the precipitous attack on Quebec that cost the life of General Richard Montgomery and the inability of the forces that Benedict Arnold subsequently commanded to maintain their siege of the city.

Meanwhile, far to the south, the threat smallpox posed to American-born troops had an equally devastating impact on the loyalist side. Hundreds of African Americans who joined Virginia governor Lord Dunmore's "Ethiopian Regiment" in hopes of securing their freedom instead succumbed to the disease, and, as word of the carnage spread, hundreds, if not thousands, of other enslaved people were dissuaded from enlisting in the loyalist cause.

Farther west, in Indian country, the military impact of *Variola* is more

difficult to measure. But it is clear that the Six Nations Iroquois in 1777 and the Creeks and Cherokees in 1779 suffered enormously from the virus. Their ability to conduct military operations during the war—and to defend their lands diplomatically from aggressive state and federal governments after the peace—were severely compromised.

In many ways, the first half of Fenn's book is the more fascinating, for its clear explication of epidemiology, for its novel look at the War for Independence through viral eyes, and for its engaging prose. The second half, which traces the spread of what may or may not have been the same pandemic through New Spain, the Great Plains, Hudson's Bay, and the Pacific Coast between 1779 and 1782, sometimes descends to a numbing chronicle of misery, broken only by occasional digressions into military affairs and discussions of the routes of Native and Euro-American traders and explorers who may have carried, or witnessed the effects of, the virus. In part this problem stems from the sketchiness of the evidence and the consequent lack of a clear story line, in part from the vast geographic scope and diversity of the peoples involved, and in part, paradoxically, from the same vivid writing style that is so engaging in the first half; Fenn sometimes tries too breathlessly to show how "*Variola* found a steady supply of victims," "*Variola* maximized its opportunities," or "*Variola* trailed them everywhere" (122,123,128).

Still, for those who persevere (and appreciate the brilliance of Fenn's detective work), it becomes clear that, for all the gaps in our knowledge about what precisely happened west of the Mississippi and north of the Rio Grande, the impact of the virus there may have been, in the long run, much greater than its more finely tuned effect on the outcome of the U.S. War for Independence. In the wake of smallpox, control over the northern fur trade passed from the severely weakened Crees and Assiniboines to the Hudson's Bay Company; dominance in the Missouri watershed shifted from the densely settled agricultural Mandans, Hidatsas, and Arikaras to the relatively unscathed nomadic Sioux (who nonetheless noted the epidemics in their winter counts); and at least twenty-five thousand Native people died on the Pacific Coast. In such ways, long before Lewis and Clark made their storied trek, the face of the continent had been reshaped more profoundly than the pockmarked faces of the Natives who survived.

Further Reading: The only general survey of disease outbreaks before 1800 remains John Duffy, *Epidemics in Colonial America* (Baton Rouge, 1953). For seminal works on the impact of smallpox and other viral diseases on Native Americans during the era of European contact, see, in addition to the works of McNeill, Crosby, and Diamond cited above, Sherburne F. Cook, "The Significance of Disease in the Extinction of the New England Indians," *Human Biology* 44 (1973): 485-508; and Alfred W. Crosby, "Virgin Soil Epidemics as a Factor in the Aboriginal Depopulation in America," *William and Mary Quarterly* 3d ser., 30 (1976): 176-207. Debates over the implications of epidemics for historical estimates of the size of Native American population may be followed in Henry F. Dobyns, "Estimating Aboriginal American Population: An Appraisal of Techniques

with a New Hemispheric Estimate," *Current Anthropology* 7 (1966): 395-415; Dobyns, *Their Number Become Thinned: Native American Population Dynamics in Eastern North America* (Knoxville, 1983); Ann F. Ramenofsky, *Vectors of Death: The Archaeology of European Contact* (Albuquerque, 1987); Russell Thornton, *American Indian Holocaust and Survival: A Population History since 1492* (Norman, 1987); Dean R. Snow and Kim M. Lanphear, "European Contact and Indian Depopulation in the Northeast: The Timing of the First Epidemics," *Ethnohistory* 35 (1988):15-33; Francis J. Brooks, "Revising the Conquest of Mexico: Smallpox, Sources, and Populations," *Journal of Interdisciplinary History* 24 (1993): 1-29; and David P. Henige, *Numbers from Nowhere: the American Indian Contact Population Debate* (Norman, 1998).

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