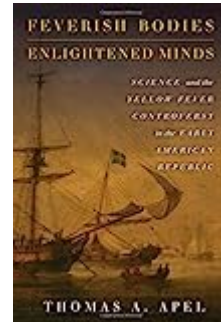




Thomas A. Apel. *Feverish Bodies, Enlightened Minds: Science and the Yellow Fever Controversy in the Early American Republic.* Stanford: Stanford University Press, 2016. 208 pp. \$60.00 (cloth), ISBN 978-0-8047-9740-5.



Reviewed by Jan Golinski (University of New Hampshire)

Published on H-SHEAR (September, 2016)

Commissioned by Robert P. Murray (Mercy College)

Fever on the Mind

Mathew Carey, an Irish immigrant and journalist, wrote the first account of the devastating yellow fever outbreak in Philadelphia in 1794. Published as the epidemic was just beginning to wane, Carey's pamphlet described its rise on the Delaware River waterfront, from where its ghastly symptoms of fever, delirium, and vomiting spread through the population. For about four thousand victims in the city that year, the suffering ended in a horrible death. As the disease returned to Philadelphia on three more occasions before 1800, and as outbreaks also struck New York, Baltimore, Boston, and other northeastern cities, many other writers took up their pens to record the pestilence and ponder its causes. Fierce arguments erupted among medical practitioners and men of science about its origins and the effectiveness of the measures adopted to deal with it.

Thomas A. Apel is therefore following a long line of writers who have examined the yellow fever outbreaks of the 1790s, and he has succeeded in finding an illuminating new approach to the subject. He has done so by taking seriously the lengthy controversy that swirled

around the question of causation. Broadly speaking, the "localist" side of the dispute traced the disease's origins to bad air in the affected area, due to the presence of corrupt or putrefying matter or to a change in what they called the "atmospheric constitution." Against them were ranged the "contagionists," who believed the disease had originated elsewhere, brought by migrants—such as the refugees who fled to Philadelphia from the revolution in Haiti—and subsequently communicated from one individual to another. From a modern perspective, one might be inclined to dismiss the whole debate as founded on ignorance and mistaken assumptions. Nobody at the time had any knowledge of the virus that causes yellow fever, and nor did anyone recognize the role of the female *Aedes aegypti* mosquito in transmitting it from person to person. We now know that the disease is not directly infectious, though it is so through the medium of the insect vector; it is not caused by putrefying organic matter, but stagnant water does provide an environment in which the mosquito can easily breed. Both localists and contagionists could therefore muster

facts to support their case, but neither side could decisively disprove the other's claims. In an intellectual climate that prized factual information above all, Apel cites historian Andrew Lewis on the "democracy of facts" in the early republic: the facts proved sadly inconclusive.

Given that the controversy was based on fundamental misconceptions on both sides, one might ask what can be gained by tracing the intemperate back-and-forth among the disputants. Apel shows that this procedure does in fact reveal a lot about the underlying beliefs of each side, frustrating as the debate must have been for the participants. He is following the lead of historians of science here, who have been examining controversies for the way they expose what are normally unspoken assumptions and presuppositions. Especially when disputes are prolonged, they lead people to articulate things they do not normally speak about, such as basic moral, philosophical, or religious principles. By unraveling the threads of controversy, ideas about disease can be shown to be connected with notions of cleanliness, propriety, divine design, and the foundations of scientific knowledge.

Apel argues that the localists were generally distinguished from the contagionists by superior education and social standing, which allowed them eventually to prevail. His four central chapters lay out what the controversy reveals about the intellectual outlook of educated Americans at the time. He begins with history, since all sides in the dispute referred to historical precedents in their accounts of the disease, and the epidemics posed a severe challenge to Americans' sense of their providential destiny as a nation. While the journalist and historian Noah Webster labored to compile a two-volume digest of epidemic outbreaks since biblical times, the New York physician Elihu H. Smith scrutinized Thucydides's narrative of the plague in ancient Athens. Both writers considered what the outbreaks of their own day implied about the moral condition and future prospects of the new American republic. At the same time, questions of basic science were also raised. Some of the leading localists, including the Edinburgh-trained physicians Samuel Latham Mitchill (in New York) and Benjamin Rush (in Philadelphia), were eager adopters of the new system of chemistry imported from France. They suggested creative extensions of chemical theory to account for yellow fever. Rush ascribed the disease to excessive stimulation of the bodily system by atmospheric oxygen. Mitchill pointed the finger at a gaseous agent of putrefaction and death he labeled "septon." Although Apel does not mention it, Mitchill's claim about septon was the spur for the English chemist Humphry Davy to experiment with

breathing nitrous oxide. Far from a deadly toxin, he found the gas induced feelings of euphoria and intoxication; it was later determined to be an effective anesthetic.

Looming over the scholarly and scientific issues in the debates were questions of religion and politics. American intellectuals of the time were capable of entertaining scientific accounts of the origins of yellow fever while also ascribing the outbreaks to the will of God. Rush, Mitchill, and Webster all identified dirt and putrefaction with impropriety and moral corruption. The sanitary measures they recommended were at the same time attempts to improve the morality of the population, to reduce waste and intemperance. New systems of sanitation and water supply in cities gained widespread support, including from those imbued with the values of classical republicanism, who tended to view the urban environment as inherently corrupting. Thomas Jefferson, for example, is quoted by Apel decrying urban growth as "pestilential to . . . morals [and] health" (p. 111). Cleanliness was next to godliness, and the yellow fever outbreaks were widely viewed as having delivered a providential message to the young republic to clean up its cities.

In his final chapter, Apel examines the political dimension of the controversy. He rightly declines to map the two sides directly onto the political divisions of the time. On the other hand, he suggests that the fierceness of the dispute did reflect the political factionalism of the 1790s. This was the era when the Enlightenment public sphere fissured into contending groups, and when conspiracy theories abounded on both sides of the Atlantic. Participants in the yellow fever debates frequently alleged their opponents were lying or conspiring against the public interest. Rush, in particular, exhibited a high degree of paranoia, likening himself to the early Christian martyrs persecuted under the Roman Empire. Simultaneously, he insisted that his opinions were the undeniable outcome of reason and truth. Apel reminds his readers that twentieth-century critics of the Enlightenment identified this combination of paranoia, conspiracy theories, and dogmatic insistence on one's own rationality as symptomatic of the last phase of the movement.

Apel delivers a panoramic view of the significance of the yellow fever controversy. The disease struck as an event in biological history, in which a virus and a mosquito were the principal actors. But its interpretation was a human affair, deeply embedded in society and culture. Apel has shown how the outbreaks on the eastern seaboard in the 1790s were understood in ways that reflected the political polarization of the era and its pecu-

liar melding of scientific and religious thought. His prose is vivid and clear, and his discursive footnotes open up many possible directions for future inquiry. Readers will appreciate his contribution to solving the problem that vexed commentators at the time of the outbreaks themselves: that of interpreting a devastating series of epidemics as historical events with profound implications for human self-understanding.

If there is additional discussion of this review, you may access it through the network, at:

<https://networks.h-net.org/h-shear/>

Citation: Jan Golinski. Review of Apel, Thomas A., *Feverish Bodies, Enlightened Minds: Science and the Yellow Fever Controversy in the Early American Republic*. H-SHEAR, H-Net Reviews. September, 2016.

URL: <http://www.h-net.org/reviews/showrev.php?id=47271>



This work is licensed under a Creative Commons Attribution-Noncommercial-No Derivative Works 3.0 United States License.