

manufacturer advised: 'Insert the Artificial Hymen into your vagina carefully. . . . When your lover penetrates, it will ooze out a liquid that appears like blood, not too much but just the right amount. Add in a few moans and groans and you will pass through undetectable!'

The other major theme in the book is the relationship between the body and metaphor. We have 'gut instincts'; we tell people to 'have a heart'; when afraid, we are 'tongue-tied'. These ways of thinking are reminders that humans are (in Bound Alberti's words) 'social beings that communicate with others – not only through tongues as symbols and organs, but through social practices, behaviours and our very materiality'. As philosopher Maurice Merleau-Ponty put it 'we don't *own* our bodies; we *are* them'.

Bound Alberti is committed to the view that the physiological body has a history. Indeed, she celebrates the potentially liberating view that 'our bodies are products of the stories we tell'. If this is the case, then 'by taking the body apart . . . we might even be able to construct it anew'. Not all readers will be convinced, but this book is a good place to start thinking anew about reinvigorating debates deconstructing mind–body dualism.

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**Thomas A. Apel**, *Feverish Bodies, Enlightened Minds: Science and the Yellow Fever Controversy in the Early American Republic* (Stanford, CA: Stanford University Press, 2016), pp. x, 191, \$60, hardback, ISBN: 9780804797405.

Some forgotten events stay puzzlingly forgotten, whatever their actual historical importance, even as others secure a place in historical memory. Many members of the educated public now know that the influenza pandemic of the early twentieth century killed more people than did the concurrent battles of World War I. In comparison, few people – including few United States citizens – know that in 1793 yellow fever ravaged the nation's capital, Philadelphia, killing a possible total of 5000 out of a population estimated at 50 000, and sending over 10 000 refugees streaming from the city. Needless to say, Philadelphia ceased to function and, with it, effectively, the federal government itself. The disease returned in six subsequent episodes. Nor was the situation unique to Philadelphia. Multiple yellow fever epidemics afflicted early America's port cities, if none as dire as that in the then capital. These are the facts as known then and now. What remained mysterious to people at the time was how yellow fever developed in the first place. Debates over its possible causes (and therefore its possible modes of prevention) were particularly rancorous. Thomas A. Apel analyses those arguments in his new book, *Feverish Bodies, Enlightened Minds*, characterising yellow fever as 'the most pressing natural problem of the early national period' (p. 2).

The recurring epidemics have had a fair amount of attention from historians of early American medicine (never a very large group) as well as some scholars of the early Republic. The stark divisions of contemporary interpretation have been an enduring puzzle for these historians. Some scholars have proposed that the essential divide was political, Federalists versus Republicans, for instance, at a hot moment of partisan politics that – not yet institutionalised into formal political parties – spilled over into much of the rest of public life. Disagreement according to particular theories of the body and the rest of the natural world have also been examined.

To make his own contribution, Apel focuses on the division between localists and contagionists, as he terms them. The distinction has been previously noted – it was

an existing one at the time among medical theorists in Europe as well as colonial zones. In essence, localists argued that autochthonous factors – such as damp, miasma and accumulated filth within particular environments – were to blame for sickening individuals; contagionists insisted instead that external vectors must somehow carry yellow fever (and other illnesses) from abroad, possibly also transmitting it from person to person. Neither argument was expressed in terms that would easily map onto theories of any disease today, though some parts of them resembled present-day explanations of illness and its transmission; in essence, neither contagionists nor localists were entirely right – or entirely wrong.

Apel makes his strongest point when he delineates how the localists won public opinion by being better organised, meaning better published, better positioned at universities (where they taught their view to a rising generation of medical practitioners), and therefore in the end more persuasive. He presents their victory as systemic, not intellectual; the localists printed their way to prominence, silencing the opposition through repeated and cleverly networked articulations. In this way, he shows that both sides of the argument participated in accepted intellectual discourse of the time – both positions proceeded from what would have been defined as enlightened principles, using modern ideas about chemistry, human history, the constitution of the body. Between them, the two camps help us to identify what the accepted modes of natural knowledge production were within the early United States. One crucial additional factor helped localists, Apel argues: the congruence of their position with a religious argument from design, which emphasised the innate order revealed within nature, including (alas for humans) the malign effects of miasmatic locations. In this way, localists both accepted and yet modified European medical theories that, Apel states, were not always as directly attuned to spiritual matters.

Despite his book's subtitle, *Science and the Yellow Fever Controversy in the Early American Republic*, Apel's focus is almost wholly on Philadelphia. To be sure, any debates that occurred in the republic's capital would to some extent represent a larger discourse about things American. But there was a broader literature on fevers in southern port cities especially that his analysis does not take on board. And there was, of course, an even broader articulation of ideas throughout the Atlantic world, an assessment of which would have helped to make even clearer whatever might have been distinctive to the United States, rather than generically American.

Moreover, and more troublingly, Apel's examination omits the question of race. He does mention slavery – and it really is only just mentioned – as an economic institution, as well as how debates over slave importation overlapped with debates on the possible foreignness of yellow fever. But the overlap was not incidental. Given the emerging and eventually nation-shattering division over slavery's expansion, anxiety over how a population from West Africa might be a reservoir of disease was important at this stage of US history.

And racism was significant to the yellow fever debates, as other scholars have noted. Except in one paragraph (p. 23), Apel ignores this dimension of the controversy, the way in which conviction that black and white bodies were intrinsically different influenced comprehension of this and other diseases. Instead, he frames a debate in which localists and contagionists did not dwell on that differentiation among kinds of people. This is highly misleading. The resistance of African captives to tropical fevers was assumed to be innate and inherited by American-born blacks. Indeed, that some black Philadelphians stayed and assisted feverish whites, while many victims' friends, neighbours, or even relatives fled, was noted as heroic, yet with a sense that these individuals nevertheless

risked less than whites would have done, because they were presumed to have superior resistance to yellow fever.

The absence of this racialised set of ideas within Apel's analysis is a significant omission. How enlightened were the early Republic's medical cognoscenti, after all, if they continued to reinforce racist prejudice that black bodies were unfailingly strong rather than subject, equally to white bodies, to fevers or other weaknesses? Given the persistence of racism within the United States today, and ongoing arguments about it, it's a good bet that any assessment of yellow fever which included the issue of race might gain greater purchase in historical consciousness than one which excluded that issue.

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**Paul David Blanc**, *Fake Silk: The Lethal History of Viscose Rayon* (New Haven, CT, and London: Yale University Press, 2016), pp. xiv + 309, \$40.00, hardback, ISBN: 978-0-300-20466-7.

'The workers will serve as experimental animals', noted Alice Hamilton, the renowned American industrial hygienist and activist for labour protection, in 1929 (quoted on p. 81). Hamilton, who had made her name investigating industrial toxins while working at the Chicago-based social reform initiative Hull House and later as the first female member of faculty at Harvard, was referring in this instance to the pernicious threat of carbon disulphide. As Paul David Blanc demonstrates in his excellent *Fake Silk*, this chemical behind the manufacture of viscose rayon (the affordable, mass-producible fake silk of the book's title) and cellophane held debilitating, and potentially fatal, consequences for the workers involved in making it. Meanwhile, consumers could blithely enjoy the product's benefits without suffering any of its harms.

As early as the mid-nineteenth century it had become clear to French physicians investigating workers in the rubber industry, where carbon disulphide was first used as a solvent, that the chemical could lead to woeful results, including impotence, nerve damage, eye damage and insanity. Suicide attempts – and threats of violence against others – were not uncommon amongst afflicted workers. Over time, medical reports stretching from France, Britain, Germany, Italy and Russia to, slightly later, Japan, went on to cite dangers associated with the chemical in its various manufacturing uses. Nonetheless, carbon disulphide proved an invaluable component in making 'fake silk' and its cousin cellophane, alongside the production of numerous other products from pesticides to a treatment for alcoholism. As a consequence, its harmful side effects often went unreported, unrecognised and, for those workers who had been made ill by exposure to the chemical, uncompensated. In fact, despite the vast medical evidence contraindicating the use of carbon disulphide, it has grown in demand into the twenty-first century. As Blanc notes, rayon production increased twofold between 1990 and 2010 (p. 214). Production may have shifted focus from the United States and Europe to China, Indonesia, India and Thailand, but the effects of the chemical have certainly not dissipated, even amidst safety innovations to protect workers from its fumes.

The story Blanc tells is both thrilling and devastating. He pieces together a complex puzzle that takes the reader across the globe, tapping archival and primary printed sources, together with interviews with former workers, in various languages and countries around