excellent treatment of the literature on science and the state and their evolving relationship in this period; however, her final definition of the state as (autonomous) "officials in action" does little for her argument. The book ultimately makes a relatively weak argument about the decentralization of state power and the variable ways this can affect the relationship between grand technoscientific ambitions and federal funding of scientific research. The story of how meteorology was swept up in the Cold War's furious restructuring of the earth sciences is a valuable one, to be sure; however, the book tends to use what we know about Cold War science to explain the support for weather control and shies away from suggesting how this story can inform our reading of science in the Cold War.

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Margot Lee Shetterly. *Hidden Figures: The American Dream and the Untold Story of the Black Women Mathematicians Who Helped Win the Space Race*. xviii + 346 pp., bibl., index. New York: HarperCollins, 2016. $27.99 (cloth).

This is, quite simply, a good story: heretofore-unknown African-American women, from the segregated South, played crucial roles in winning World War II and the Space Race. It is a story good enough, in fact, to be written and published in conjunction with a major feature film. Undoubtedly, the book and film *Hidden Figures* will do more than dozens of academic monographs and articles to convince Americans that women—and women of color in particular—were not peripheral, but central, to midcentury computing and engineering. It is a remarkable tale in part because of its mundanity: mathematically skilled women, simply looking for good jobs, found themselves at the epicenter of midcentury computing.

Margot Lee Shetterly does what all too few historians of science have managed to do in integrating Cold War science with the burgeoning civil rights movement. The American federal government played a central role in forcing integration, just as it did in forging "big science" and leading investments in aeronautics, computing, and engineering. Historians have long noted that the *Sputnik* launch and violent clashes over school integration in Little Rock, Arkansas, were contemporaneous events, but rarely have they been able to show how changing racial codes were intimately connected to the development of engineering practices and the organization of research laboratories (from cafeteria tables to managerial hierarchies).

Hidden Figures follows a group of African-American women who worked as computers—performing computations crucial for engineering work—from the 1940s to the 1960s at the Langley Research Center of the National Aeronautics and Space Administration. Initially segregated into "West Computing" (with "East" reserved for white women), the group was eventually disbanded not primarily because of the rise of electronic computers but because human computers had become fully integrated into engineering teams and, in a few cases, had been promoted to engineers themselves. The only one of Shetterly's protagonists who had been widely known was Katherine Johnson, but by serving as an exemplar Johnson had previously obscured (in a way she never would have wanted) the contributions of Dorothy Vaughan, Mary Jackson, and dozens of others. Shetterly's narrative is structured around her characters' idiosyncratic journeys to Langley—a sensible choice, given the genre, but one that regrettably reinforces a perception of computing history as dominated by a few remarkable individuals rather than as a collective effort.

Unfortunately for most readers of *Isis*, Shetterly essentially ignores the growing literature on women in computing and science, with the exception of passing references to the research of David Alan Grier and Margaret Rossiter. A book like this has no need to situate itself actively in the academic literature, of course, but as a result Shetterly is essentially unable to characterize her narrative in the context of the many other examples of female computers prior to the 1970s that scholars like Janet Abbate, Marie Hicks, Jennifer Light,

and others have detailed. The story of the Langley computers is presented as particular to aeronautics and Hampton, Virginia, instead of as part of a long tradition of feminized computing labor.

Similarly, readers looking to learn something about what the women of "West Computing" actually did will be disappointed. Though the book provides some titles of research publications and vague descriptions of engineering challenges, readers come away with no sense of the practice of these particular computers. As a result, it is difficult to situate them in the history of human/machine calculating efforts. There are clear resonances (hierarchically arranged labor, constant use of various mechanical devices, inscription practices that enable calculations to become stable and mobile, etc.), and given the wealth of interviews Shetterly conducted it would have been rewarding to learn more about the actual work to which these computers and engineers were so clearly devoted.

Shetterly chooses not to use her case study as an examination of how women (and African-American women in particular) became troublingly underrepresented in computing. Certainly, the case of women computers wasn't one of glass shattering: the ceiling was still firmly in place in the mid-1970s. Despite decades of women computers, mathematicians, and engineers, there was a noted scarcity of women in management and high-level technical positions.

These omissions make the book a tough one to assign on its own for a course, though if paired with a more analytical account of race and gender in science it would certainly be a rich example for students to think about.

In any case, Johnson, Jackson, Vaughan, and their colleagues (many listed at the companion website: http://thehumancomputerproject.com/women) should become part of our standard narrative of the history of computing and aeronautics. As Shetterly explains, this history has not so much been hidden as willfully obscured by iconic images of bespectacled white men in button-down shirts and skinny ties surrounded by giant electronic computers. It is past time for the public to embrace a new picture of the history of mathematics, engineering, and computing.

Christopher J. Phillips

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Marie Hicks. *Programmed Inequality: How Britain Discarded Women Technologists and Lost Its Edge in Computing.* (History of Computing.) x + 342 pp., figs., bibl., index. Cambridge, Mass./London: MIT Press, 2017. $37 (cloth).

Computing technology has often created or shaped issues that are not technological in nature but are actually economic, managerial, or political. The rise of the computing industry in the second half of the twentieth century spurred a number of fundamental debates about the division of labor. Who would be allowed to manage this new technology? Who would prepare the programs? What would be their position in the organization and their status? Perhaps most contentiously, how would the organization compensate these workers? In these discussions, technology plays only the limited role of being an object that requires a certain set of skills or specific operational training.

Programmed Inequality looks at these labor issues in the context of the British government and its efforts to deal with the gender of its computer operators and programmers. As also happened in other parts of the world, women found opportunities in the early years of the British computer industry. They were able to claim these opportunities because computing jobs were ill-defined and poorly understood. As might be expected, these opportunities quickly closed. Women soon found themselves relegated to positions that had less authority and offered less compensation than equivalent jobs for men.

Marie Hicks traces the experience of women who programmed and worked on computers for the British government between the mid-1950s and the 1970s. She builds on the scholarship of Jon Agar's *Government*