

Horowitz's original book of the same name. Bookended by a powerful introduction and conclusion by the two coeditors, the volume is both a rethinking of an older frame from the past and an introduction to new work in the future. It is a comprehensive and forward-thinking volume.

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Joy Lisi Rankin. *A People's History of Computing in the United States*.
Cambridge: Harvard University Press, 2018. 336 pp.

Rankin's title represents a Howard Zinn-style commitment to recapturing the historical significance of ordinary citizens, here in shaping today's instant access to digital information, communication, and entertainment. Rankin decries what she calls the misleading "Silicon Valley mythology" (p. 10) that credits Steve Jobs, Steve Wozniak, Bill Gates, and other "founding fathers" with liberating computer access for casual users in the late 1970s. In such accounts, these heroic geeks revolutionized technology itself, transforming enormous and expensive walled-off mainframes into affordable new personal computers. That story of progress then emphasizes the transformative magic of the 1990s internet in spawning the first social communities empowered by computers to transcend distance and differences.

Rankin charges that such oversimplified interpretations obscure essential developments in computer use prior to the marketing of PCs. In particular, she warns, a Silicon Valley narrative "minimizes the roles of primary and high schools, as well as colleges and universities, as sites of technological innovation" (p. 3). She counters with a carefully researched alternative, tracing how by 1970 thousands of students and educators were already using time-sharing systems to create and play games, write music and poetry, exchange messages, collaborate on programming, and explore computers' potential in education. "Usually we think of public schools and college classrooms as the last stop for mature technology," she notes, proceeding to challenge that assumption by revealing a far more complex history of computer development (p. 5).

Rankin opens at Dartmouth, where keen math professors convinced administrators in the early 1960s that new generations needed

to master computing for future leadership in business and government. While military-funded researchers elsewhere focused on maximizing computer efficiency, the Dartmouth faculty, free from sponsored-research pressures, prioritized access and user-friendliness. Irritated by FORTRAN's difficulty, they created more straightforward programming languages, including BASIC, that got freshmen programming in four hours. "Professors aimed not for computer scientists but for computing citizens" (p. 30). They believed computer facilities should be free to everyone on campus, comparing it to library borrowing privileges and open-stack access. With National Science Foundation funding, Dartmouth embedded introductory computing in large math classes, and soon 80 percent of students were using computers for games, art, homework, letter writing, and banner making. Hundreds of local high schoolers and elementary students formed their own social community of users, learning from parents connected to Dartmouth, teachers, and each other. By 1971, Dartmouth's network expanded to twenty regional colleges plus thirty high schools, with more than thirteen thousand users. When that popularity stressed system capacity, administrators urged users to clear memory, share terminals, and otherwise practice "good computing citizenship" (p. 44). Behind that rhetoric of citizenship, Rankin demonstrates, Dartmouth's fraternity/football elite shaped a white, masculinized, heteronormative computing culture, where young men deployed technical knowledge to gain status, impress dates, and compete in tough multiplayer games. While Dartmouth's system relied on work by female programmers, operators, and other staff women, the institution defined them primarily as wives and "housemothers" to male users (p. 47).

Rankin shows how Dartmouth, the Digital Equipment Corporation, and educators spread excitement about BASIC nationwide through newsletters, instructional guides, and related support that "demystified computing for many teachers by providing them with a contained, structured, and clearly documented mode of integrating computing into their classrooms" (p. 104). The emphasis on educational cooperation and accessibility especially resonated in Minnesota's high-tech economy, which Rankin uses to illustrate the era's rapid growth of state and regional computing networks and an important corrective to Silicon Valley-centric history. In the mid-1960s, Twin Cities high school teachers joined Dartmouth's network to help students learn math and physics, and then promoted classroom computing via newsletters, school visits, and presentations at teachers' conferences. By the 1970s, Minnesota offered time-sharing access to 84 percent of state public school students, who used teletypes to develop programs to write music, score sports competitions, and play games,

including the famous Oregon Trail simulation. Educators and students became innovators, facilitating the emergence of features common today, such as user-generated and shared content, social-networking interaction, and networked gaming. “Teachers were considered partners in the development of the technological system and consulted from the outset” (p. 149).

Rankin’s final case study unpacks the history of PLATO (Programmed Logic for Automatic Teaching Operations), developed in the 1960s with an educational emphasis, unlike other Defense Department projects. The University of Illinois created innovative touch-sensitive and flat-panel plasma screens to facilitate interaction, while making novices comfortable by explaining systems as “electronic blackboards” and “electronic books” (p. 170). Through public demonstrations and outreach, technical experts fostered partnerships with K-12 colleagues and university specialists in education, the social sciences, and the humanities. An early simulated laboratory helped nursing students experiment with treating virtual heart attack patients, while simultaneously teaching them about computers. Earth Day initiatives promoted ideals of democratically interactive communication and public-participation policy-making via simulations of population growth and pollution. Using the nationwide network of almost one thousand terminals, thousands of students, educators, and others used over a million hours of screen time in 1975 to trade emails, instant messages, and bulletin board posts. System use seemed personalized, since each person interacted directly with the machine, yet also social, since users consulted each other while working in classrooms and similar public spaces. When online exchanges grew tense (including harassment of female participants), the community wrestled with self-policing, sparking discussions of online hostility, censorship, and security.

“1965–1975 was a golden age of networked computing,” Rankin writes, when “students, educators, and enthusiasts created personal and social computing before personal computers” (p. 228). She emphasizes the principle that early initiatives, free to school-based users, created “computing citizens, not computer consumers” (p. 167). Community members exchanged ideas, shared programs, and helped each other learn, linked by teletypes, terminals, and mutual interests. Many observers called for creating a public information utility, like affordable telephone service and electricity, a national computer network offering widely inclusive home, school, and business access. Rankin concludes that the corporate-driven push behind personal computer marketing in the late 1970s ended that “golden age,” as individually oriented consumerism replaced shared networks and cut the social connections that had united user communities. “Computing access . . . is increasingly

recognized as a necessity around the world, [but] it is no longer conceived as a civic project” (p. 11).

Rankin’s clearly written study underlines the importance of teachers, students, and educational considerations in driving technological growth and creativity. Some sections make links to the broader history of American education, but more thorough analysis of that context would have made the book even richer. It is fascinating to think about how spreading computer use might have connected to other 1960s/1970s educational questions and patterns, such as new classroom styles, different K-12 math approaches, and changes in high school and college curricula. The ending is also rather abrupt, with a passing mention of Apple’s entry into classroom computing. It would have been valuable to see deeper analysis of the interactions between corporate education campaigns, educators, and students. Nevertheless, Rankin succeeds beautifully in refocusing early computer history away from Cold War-driven military projects and Silicon Valley genius and toward a wider picture connecting social and educational computerization from New England to the Midwest and beyond. In recapturing the significance of education in computer development, Rankin offers an intriguing historical foundation from which to reflect on more recent trends and issues in computer education and technology in schools.

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David A. Varel. *The Lost Black Scholar: Resurrecting Allison Davis in American Social Thought*. Chicago: University of Chicago Press, 2018. 304 pp.

In this well-researched and erudite intellectual biography of the largely forgotten twentieth-century African American scholar Allison Davis (1902-1983), David Varel argues that Davis’s intellectual contributions in anthropology, sociology, and education helped transform American scholarship on race and class. In doing so, the author rescues Davis from an obscurity caused by “his interdisciplinary involvement, his iconoclasm, and his status as a racial minority in a racist academy” (p. 4).