

New Directions in the History of Computing

Thomas J. Misa

Charles Babbage Institute

This special issue of the *IEEE Annals of the History of Computing* surveys a singular quarter century in the history of computing, with a focus on how the field has matured and how its intellectual questions have evolved.

The articles in this issue evolved from papers presented at a symposium in June 2006 at the Charles Babbage Institute marking Arthur Norberg's retirement as CBI director. In his opening contribution, William Aspray draws on his background and experiences, his deep knowledge of the field, and some careful research to prepare an assessment of Norberg's role in shaping CBI and creating the field of computing history. Aspray gives a candid appraisal of the several competing directions that CBI faced. The key points concerned CBI's archival policies and practices, its oral history program, and its historical research program. "Through vision, encouragement from the historical and archival communities, and sheer willpower and persistence," as Aspray writes, "Norberg prevailed on all three of these issues."

Jim Cortada's article is a reflective overview of his *Digital Hand* trilogy.¹ He joins a growing number of business and technology historians who advocate greater sensitivity to users in the processes of designing, shaping, and diffusing technologies. In a way, he asks a very simple set of questions: What were the business applications of computers? How did business people learn about computers? How did they decide when to adopt new forms of computing technology, and when to discard them? He also directs attention to the industrywide trade associations and professional groups, such as the American Banking Association, which often promoted the use of information technology across an entire industry.

Martin Campbell-Kelly offers an autobiographical perspective on software history, a field that he has done much to create. Campbell-Kelly observes that the interests and concerns of the technical community largely shaped the early history of software. After all,

there were several hundred programming languages, each of which seemed worthy to document. Indeed, this has been the motivation and organization of the History of Programming Languages conferences and volumes. A history of the software industry developed around histories of the SAGE air defense system, the ERMA electronic banking system, and select studies of other topics. Then in the 1990s came the takeoff of Microsoft, and accordingly a "disproportionate interest" in that firm and its founder, Bill Gates. "Not only Microsoft" is the title of Campbell-Kelly's book chapter on the personal computer software industry, in which he reminds readers that not until 1998 did Microsoft's software sales exceed those of IBM, and even the next year, when Microsoft became the largest company in the world as measured by stock-market valuation, its total revenues were still just one-quarter those of IBM.

Finally, two additional contributions to these historiographic discussions relate to this special issue. Michael Mahoney gave an engaging talk at our June 2006 event, urging that historians engage the detailed content of software and treat it as an archeologist might analyze a physical artifact. This paper was subsequently presented formally to the MED-ICHI conference held in April 2007 at Klagenfurt University, Austria, and it is slated for a forthcoming issue of the *Annals*.² My own historiographic essay, elsewhere in this issue, had its origins as a paper for the "Informatics Goes Global" conference at Indiana University in March 2006, and although it was not part of the CBI symposium, it clearly extends and amplifies the event's discussions. As I suggest in that article, the history of computing is growing and changing, and the next quarter

century will be every bit as exciting as the one just past has proven to be.

References and notes

1. J.W. Cortada, *The Digital Hand: How Computers Changed the Work of American Manufacturing, Transportation, and Retail Industries*, Oxford Univ. Press, 2004; J.W. Cortada, *The Digital Hand, Volume 2: How Computers Changed the Work of American Financial, Telecommunications, Media, and Entertainment Industries*, Oxford Univ. Press, 2006; and J.W. Cortada, *The Digital Hand, Volume 3: How Computers Changed the Work of American Public Sector Industries*, Oxford Univ. Press, 2007.
2. An early version appeared as M.S. Mahoney, "The Histories of Computing(s)," *Interdisciplinary Science Reviews*, vol. 30, no. 2, 2005, pp. 119-135. For the Klagenfurt conference, see <http://www-itec.uni-klu.ac.at/medichi2007/Program/index.html>.



Thomas Misa directs the Charles Babbage Institute at the University of Minnesota, where he is a faculty member in the department of electrical and computer engineering and teaches in the graduate program for the history of science, technology, and medicine. He earned a BS from MIT and a PhD from the University of Pennsylvania. His books include *Leonardo to the Internet* (Johns Hopkins University Press, 2004).

Readers may contact him at Charles Babbage Inst.; 211 Andersen Library; University of Minnesota; Minneapolis, MN 55455; <http://www.cbi.umn.edu>.

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The book cover features a black and white photograph of a woman sitting at a desk, operating an early computer terminal with a large monitor and keyboard. The title "WHEN COMPUTERS WERE HUMAN" is printed in large, bold, white capital letters across the top of the image. Below the image, the author's name "David Alan Grier" is written in a smaller, white serif font.

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