

May 6, 2009

## Nathan L. Ensmenger

History & Sociology of Science Department • University of Pennsylvania  
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**Assistant Professor**, History & Sociology of Science (2003-)  
**Undergraduate Chair**, Science, Technology, and Society (2005-)

### EDUCATION:

University of Pennsylvania, PhD, History & Sociology of Science, 2001  
University of Pennsylvania, MA, History & Sociology of Science, 1998  
Princeton University, BSE, Civil Engineering & Operations Research, 1994

### RESEARCH INTERESTS

Links between the social history of the software professions and contemporary innovations in computer technology; the formation of a computing sub-culture and an “aesthetic” of programming; the role of women in the history of information processing; the development of national information technology policies.

### PUBLICATIONS

#### Books

*The “Computer Boys” Take Over: Computers, Programmers, and the Politics of Technical Expertise.* (MIT Press, forthcoming)

#### Book Chapters & Refereed Articles

“Making Programming Masculine,” in Tom Misa, ed. **Gender Codes: Women and Men in the Computing Professions** (IEEE Press, 2009)

“Resistance is Futile? Reluctant and Selective Users of the Internet,” in P. Ceruzzi and W. Aspray, eds. **The Internet and American Business** (MIT Press, 2008)

“Computing for the humanities and social sciences,” in W. Aspray and A. Akera (eds.) **Using History To Teach Computer Science and Related Disciplines** (Washington, D.C.: Computing Research Association, 2004)

“Letting the ‘Computer Boys’ Take Over: Technology and the Politics of Organizational Transformation,” **International Review of Social History** 48:11 (2003), pp. 152-180.

"The 'Question of Professionalism' in the Computing Fields," **IEEE Annals of the History of Computing** 4(2001), pp. 56-73.

"Software as Labor Process," in **Mapping the History of Computing: Software Issues**, U. Hashagen, R. Keil-Slawik, A. Norberg, eds. (New York: Springer-Verlag, 2002). With William Aspray.

### Published Essays

"Software as History Embodied," **IEEE Annals of the History of Computing** 31:1(2009), pp. 89-91.

"Computers as Ethical Artifacts," **IEEE Annals of the History of Computing** 29:4(2007), pp. 95-96.

"The Computer: Mechanizing the Information Age," **Oxford Encyclopedia of the Modern World** (Oxford University Press, forthcoming)

"Open Source's Lessons for Historians," **IEEE Annals of the History of Computing** 26:4(2004), 103-104.

"Power to the people: toward a social history of computing," **IEEE Annals of the History of Computing** 26:1(2004), pp. 95-96.

"The Development of Computer Languages," in **Science and its Times: Understanding the Social Significance of Scientific Discovery**, Neil Schlager, ed. (Cambridge, MA: Gale Publishing, 2000)

### Reviews

#### Harvard Business Review

Review of Paul Ceruzzi, *Internet Alley: High Technology in Tysons Corner, 1945-2005* (MIT Press, 2008)

#### Isis

Review of J. Storrs Hall, *Beyond AI: Creating the Conscience of the Machine* (Prometheus, 2006)

#### Economic History Review

Review of Carroll Pursell, *The machine in America: a social history of technology*, 2nd edition (Johns Hopkins Press, 2007)

#### Technology & Culture

Review of Joel Shurkin, *Broken genius: the rise and fall of William Shockley, creator of the electronic age* (Macmillan, 2006)

#### Harvard Business History Review

Review of Kevin Maney, *The Maverick and His Machine : Thomas Watson, Sr., and the Making of IBM* (J. Wiley & Sons, 2003)

**Technology & Culture**

Review of Alfred D. Chandler, *Inventing the Electronic Century: The Epic Story of the Consumer Electronics and Computer Industries* (Harvard University Press, 2005)

**Historical Studies in the Physical and Biological Science**

Review of Thomas Misa, *Leonardo to the Internet: Technology & Culture From the Renaissance to the Present* (Johns Hopkins University Press, 2004)

**Isis**

Review of Ross Bassett, *To the Digital Age: Research Labs, Start-Up Companies, and the Rise of Mos Technology* (Johns Hopkins University Press, 2002)

**Technology & Culture**

Review of Steven Weber, *The Success of Open Source* (Harvard University Press, 2004)

**IEEE Annals of the History of Computing**

Review of Douglas Thomas, *Hacker Culture* (University of Minnesota Press, 2002)

**IEEE Annals of the History of Computing**

Review of Martin Campbell-Kelly, *From Airline Reservations to Sonic the Hedgehog: A History of the Software Industry* (MIT Press, 2003)

**American Scientist**, September-October 2003

Review of Alice Burks, *Who Invented The Computer? The Legal Battle That Changed Computing History* (Prometheus Books, 2002)

**Business History Review**, Fall 2001

Review of Theiry Bardini, *Bootstrapping: Douglas Englebart, Coevolution, and the Origins of Personal Computing* (Stanford University Press, 2000)

**IEEE Spectrum**, Winter 2000

Review of Raul Rojas and Ulf Hashagen (eds.), *The First Computers: History and Architectures* (Cambridge, MA: MIT Press, 2000)

**Business History Review**, Winter 1999

Review of I. Bernard Cohen, *Howard Aiken: Portrait of a Computer Pioneer* (MIT Press, 1999) and I. Bernard Cohen and Gregory W. Welch, eds., *Makin' Numbers: Howard Aiken and the Computer* (MIT Press, 1999)

**Electronic Publications**

*America's Golden Age of Medicine? Health, Medicine, and American Culture, 1930-1960*, Web-based teaching resource and textbook used by various courses in the **Health and Societies Program** at the University of Pennsylvania, as well as in history of science and medicine programs at Cornell University, University of Minnesota, and Virginia Tech.

Available online at:

[ccat.sas.upenn.edu/goldenage](http://ccat.sas.upenn.edu/goldenage)

**CONFERENCES/PRESENTATIONS:**

**University of Minnesota, February 2009**

"Is Chess the Drosophila of AI? Computer Games as Experimental Technologies in Artificial Intelligence"

**Society for the History of Technology, Lisbon, Portugal, October 2008**

"Fixing things that can never be broken: Software maintenance as heterogeneous engineering"

**Wharton School, Executive Program in Work-Learning, August 2008**

"The Sociology of Work in Information Technology"

**Charles Babbage Institute, Gender and Computing Conference, May 2008**

"Making Programming Masculine"

**Drexel University, March 2008**

"Cyborgs, Artificial Intelligences, and Meat Machines: Computers and the Reinvention of the Body"

**Soft-EU Conference, Grenoble, France, January 2008**

"The Software Crisis as a Crisis of Professional Identity"

**Northwestern University, May 2007**

Media, Technology, and Society Program

"Why Docs Don't Do Email: Physicians and Professors as 'Reluctant' Users of the Internet."

**University of Wisconsin, February 2007**

School of Library and Information Sciences & Science Technology Studies

"Neither Luddites nor Sages: Physicians and Professors as Reluctant Users of the Internet"

**Society for the History of Technology, October 2006**

"Is Chess the Drosophila of AI? Computer Games as Experimental Technologies in Artificial Intelligence"

**Artefacts XI, September 2006**

Nobel Museum, Stockholm, Sweden

"A View from the Academy: Teaching the City as Technology"

**Computers in Use: historical and social perspectives, July 2006**

Centre for the History of Science, Technology and Medicine, Manchester, UK

"What's so hard about software? Computers and organizational transformation, 1952-1968"

**Deutsches Museum von Meisterwerken der Naturwissenschaft und Technik**, July 2006 "Necessary Intermediaries: Commerce and the Internet in an Historical Perspective"

**Bates Seminar, Penn Nursing History Forum**, April 2006  
"The Cybernetician visits the Emergency Room: Early Visions of the Hospital as an Information System"

**Labor and Employment Relations**, January 2006  
"The Cosa Nostra of the Data Processing Industry': Computers, Programmers, and Other Corporate Subversives, 1959-1975."

**International Association of Word and Image Studies**, September 2005  
"Wizards, Hackers, and Poets: The Power of Computer Codes and Other Incantations ..."

**Johns Hopkins University**, October 2004  
"The Cosa Nostra of the Data Processing Industry': Computers, Programmers, and Other Corporate Subversives, 1959-1975."

**Wharton School, University of Pennsylvania**, April 2004  
"New Power for Management?: The Software Crisis and the Struggle for Organizational Control Over Electronic Computing, 1959-1975"

**Stanford University**, February 2003  
Center for Work, Technology, and Organizations  
"Letting the 'Computer Boys' Take Over: Technology and the Politics of Organizational Transformation."

**Indiana University**, December 2002  
"Mongolian Horde versus Superprogrammer": Managers, Programmers, and the Origins of Software Engineering."

**Northwestern University**, April 2002  
"Information Infrastructure: Technological, Human, and their Intersections."

**Using History to Improve Undergraduate Teaching of Computer Science**  
Computing Research Association, National Science Foundation, August 2001

**University of Wisconsin - Madison**, invited lecture, April 2001  
"Aristocracy, Democracy, and Systems Design"

**American Historical Association**, January 2001  
"Letting Form Follow Function: Using Web-Based Resources for More Than Just an Electronic Syllabus"

**Colby College**, invited lecture, January 2001  
"The Rise of the U.S. Software Industry, 1946-1980"

**Cornell University**, invited lecture, December 2000

## *Media Appearances*

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“From ‘Black Art’ to Industrial Discipline: Towards a Social History of Software Development”

**History of Science Society Conference**, November 2000 (Vancouver, B.C.)

“Chess Players, Music Lovers, and Mathematicians: Towards a Psychological Profile of the Ideal Computer Scientist”

**Society for the History of Technology Conference**, 2000 (Munich)

“From “Computer People” to Software Engineers: The Professionalization of Programming”

**Pacific Northwest Labor History Conference**, 2000

“The Software Crisis and the Management of Programmers”

**International Conference on the History of Computing**, 2000 (Paderborn, Ger-

many) “Software as Labor Process”

**American Association of Historians of Medicine Conference**, 1999

“America’s Golden Age of Medicine? Exploring the Promise of the World Wide Web for the Teaching of the History of Medicine”

**Society for the History of Technology Conference**, 1998

“‘Building Castles in the Air:’ The Software Crisis and the Art of Programming: 1945-1968”

## **Media Appearances**

Interview on the social history of computing, **Chicago Public Radio**, *Odyssey* (hosted by Gretchen Helfrich), July 2005.

## **FELLOWSHIPS AND AWARDS:**

Penn Humanities Forum Fellow (2005–2006)

University of Pennsylvania, Distributed Learning Venture Fund Grant (2001)

Charles Babbage Institute, Tomash Fellowship in the History of Information Processing (2000)

Princeton University, Class of 1882 Memorial Writing Prize

## **DEPARTMENT & UNIVERSITY SERVICE**

**Undergraduate Chair**, *Science, Technology, and Society* (2005-)

## **PROFESSIONAL SERVICE**

List editor, **H-SCI-MED-TECH** (2005-)

**Franklin Institute**

Advisory Committee, Case Files in the History of Science Project.

**IEEE Annals of the History of Computing**

Editorial Board (December 2001-present)

**National Science Foundation**

Proposal reviewer, Science and Technology Studies Program

**Business History Review**

Served as a referee for articles related to information technology issues.

**Technology & Culture**

Served as a referee for articles related to information technology issues.

**TEACHING EXPERIENCE**

**Assistant Professor, History & Sociology of Science, *University of Pennsylvania***  
(2003-)

**University Lecturer, History & Sociology of Science, *University of Pennsylvania***  
(2001-2003)

**Instructor, Wharton School of Business/Graduate School of Education, Executive Education program in Work-Learning Leadership (2008)**

**Instructor, Electrical Engineering Department, School of Engineering & Applied Science, *University of Pennsylvania* (2001-)**