Computers on Campus: The Impact of the Computer Revolution on Georgia State University

John M. Cunningham

JCunningham@student.gsu.edu

HIST 8030 — Fall 2018 — Paper Proposal

October 8, 2018

The computer revolution and the emergence of the digital age dramatically altered the way people communicate, changed the processes of production, and transformed the skills needed for employment in a world with industries that did not exist before the digital age. Computer technology progressed relatively quickly going from commercially-viable room-sized mainframes to closet-sized minicomputers within a decade. One decade later, the microprocessor made possible personal computers that could fit on a desk, and with this microcomputer came greater democratization of computer technology. Within just another few years, graphical interfaces opened up technological utility to the less-technically inclined. Though computer technology has benefitted society, positive outcomes were neither inevitable nor have been universal. A technological innovation is a singular point of possibilities within a historical matrix. In the digital age those possibilities were realized very quickly, and the direction took shape so fast, that we tend to forget the periods between technological steps in which all the different directions that technology could go were still possibilities, and the impact of that uncertainty on people's lives.

The collegiate experience is an intersection point between child and adult. College life revolves around preparation for the workforce, being surrounded by it, interacting with it, but not yet part of it. Seen through eyes of university students, the possibilities, the potential pitfalls, and the patterns of change, are illuminated though the students' and the universities' sense of uncertainty. This paper will focus on the impact that computer technology had on the establishment of the University during the mainframe and minicomputer years (the early 1960s and 1970s). I will attempt to illuminate and illustrate the significance of the changes in three areas — the academic programs that were altered due to computer technology, the physical acquisition and transformation of the campus, and the student and faculty experiences with computer technology.

After being founded in 1913 as the Georgia Institute of Technology's evening commerce school, Georgia State struggled to establish its own reputation amongst the other the universities in Georgia. After a political battle between Georgia State, the University of Georgia, and the University System of Georgia in the 1950s, the University System Regents established Georgia State College as a separate institution, and by 1969, Georgia State became a full-fledged research university. While histories of Georgia State University have been written, none have focused on the impact of computer technology. *Georgia State University: An Institutional History 1913-2002,* originally a dissertation in Higher Education, focuses on the development and evolution of the University's mission. *Educating the Urban New South: Atlanta and the Rise of the Georgia State University 1913-1969* explores the development of the urban university within the context of the growing city of Atlanta.

The history of computing has been a growing field of historical research over the last few decades. Regarding the place of the history of computing within the broader field of the history of technology or the even broader history of science, a variety of scholarly journal articles by the late Michael Sean Mahoney of Princeton University is a valuable resource. His work was collected into a book length monograph edited by Thomas Haigh titled *Histories of Computing* published by Harvard University Press in 2011. Additionally, Mahoney's website, full of class reading lists and links to academic writings, which was created in the early years of Princeton's foray onto the world wide web, remains active though un-updated since Mahoney's death in 2008. Mahoney was one of the first to articulate the idea of a "software crisis" which would lead to insistence on the focus of computer use rather than exclusive hardware development.[1] This paper will follow that idea, but moving beyond software development and further explore societal uses and integration of the whole computer — hardware and software— into the collegiate experiance. For an example of placing computer technology into the larger societal structure, the association for computing machinery (ACM) published a book length history of computing in society titled *Communities of Computing: Computer Science and Society in the ACM* in which Dr. Thomas Misa of the University of Minnesota explores the ACM within larger social issues of the 1960s and 1970s such as the Women's Rights Movement and the Vietnam War. IBM

---

[1] Thomas Haigh, "Unexpected Connections, Powerful Precedents, and Big Questions: The Work of Michael Sean Mahoney on the History of Computing" in *Histories of Computing* by Michael Sean Mahoney ed. Thomas Haigh (Cambridge: Harvard University Press, 2011): 9.

dominated the early computer market, and as such, histories of IBM are important sources. *Building IBM: Shaping an Industry and Its Technology*, as well as *IBM's 360 and Early 370 Systems* are examples of these industrial biographies that help give context. Additional research has been done on countercultural influences on computer develop in the 1960s. Examples include *From Counterculture to Cyberculture Stewart Brand, The Whole Earth Network and the Rise of Digital Utopianism* by Fred Turner and John Markoff's *What the Dormouse Said: How the Sixties Counterculture Shaped the Personal Computer Industry*. Other secondary source material for the history of computing are academic journals which include the Society for the History of Technology's official journal *Technology and Culture*.

This project will attempt to add a case study of the integration of computer technology into grand scale histories of computer technology and society at large. Early histories of computer technology focused on the men who led big breakthroughs in computer technology often with the goal of "establishing credit for 'firsts.'"[2] Historian Michael Mahoney argued that "historical periodization [built] around machine generations" and histories that are focused on "hardware technologies and computer producers" do not make sense when one is interested "technology in use," which historians of technology have been "increasingly turning their attention."[3] By focusing on Georgia State during its formative years as becoming a research university, I will attempt to focus historical light on the intersection of early computer technology amongst those more likely to be technically inclined (educated, urban, academically driven, more within reach of emerging technology than those outside of academia) but not directly involved in its development (as compared to students and faculty at MIT, Berkeley, Stanford, etc…). This paper will become part of a larger project that will further explore computer integration in southern collegiate society in general by expanding to include the experiences with computer technology at both Georgia Tech and the University of Georgia.

Primary source material for this project will consist of university archival material. The students' own words in Georgia State's student-produced newspaper and yearbook will build the backbone of historical evidence. The Georgia State University Archives also houses presidential papers, annual university reports to the Board of Regents, and facility reports. Combined, these sources will help

---

[2] Haigh, 4-5.

[3] Haigh, 5.

determine the relationship between student expectations, faculty experiences, and university priorities. When connected to larger external factors and trends, our historical understanding of both the collegiate experience in the 1960s and 1970s and of society's interaction with changing computer technology will be further evident.

Secondary Sources

David Smith Jr., *Georgia State University: An Institutional History 1913 - 2002* (U.S.A.: Higher Education Publication, 2010).

Emerson W. Pugh, *Building IBM: Shaping an Industry and Its Technology* (Cambridge: MIT Press, 2009).

Emerson W. Pugh, *IBM's 360 and Early 370 Systems* (Cambridge: MIT Press, 1991).

Fred Turner*, From Counterculture to Cyberculture Stewart Brand, The Whole Earth Network and the Rise of Digital Utopianism* (Chicago: University of Chicago Press, 2006).

John Markoff, *What the Dormouse Said: How the Sixties Counterculture Shaped the Personal Computer Industry*. (New York: The Penguin Group, 2005).

Michael Mahoney, *Histories of Computing* ed. Thomas Haigh (Cambridge: Harvard University Press, 2011).

Merl E. Reed, *Educating the Urban New South: Atlanta and the Rise of Georgia State University* (Macon: Mercer University Press, 2009).

Nathan Ensmenger, "The Digital Construction of Technology: Rethinking the History of Computers in Society" *Technology and Culture*, vol. 53, no. 4 (October 2012): 753-776.

Thomas Haigh, "Computing the American Way: Contextualizing the Early US Computer Industry" *IEEE Annals of the History of Computing* (April-June 2010).

Thomas Haigh, "Defining American Greatness: IBM from Watson to Trump: Reflections on a firm that encapsulated the American Century" *Communications of the ACM* vol. 61, no.1 (January 2018).

Thomas Haigh, "Inventing Information Systems: The Systems Men and the Computer, 1950-1968" *The Business History Review* vol. 71, no. 1 (Spring 2001): 15 - 61.

Thomas Haigh, "Unexpected Connections, Powerful Precedents, and Big Questions: The Work of Michael Sean Mahoney on the History of Computing" in *Histories of Computing* by Michael Sean Mahoney ed. Thomas Haigh (Cambridge: Harvard University Press, 2011).

Willis H. Ware, *RAND and the Information Evolution: A History in Essays and Vignettes* (Santa Monica, California: RAND Corporation, 2008).

Primary Sources

"A University and the Computer" *Educational Technology*, vol. 7, no. 5 (March 15, 1967), 16.

Aaron Strauss, "ENIAC: The First Computer" *The Mathematics Teacher*, vol. 69, no. 1 (JANUARY 1976): 66-72.

Amos St. Germain and Carol M. Barnum, "Interface '81 Humanities and Technology: Southern Technical Institute, Marietta, Georgia October 22-23, 1981" *Technology and Culture*, vol. 23, no. 4 (Oct., 1982) 625-630.

Bernard W. Wishy, "The Compleat Computer Center" *Computers and the Humanities*, vol. 4, no. 1, Humanities/Computers 69: A Symposium (Sep., 1969): 81-89.

Charles Mosmann and Arthur W. Luehrmann, "Computer Use" *Science*, New Series, vol. 187, no. 4172 (Jan. 17, 1975): 114+116-117.
Francis E. Rourke and Glenn E. Brooks, "Computers and University Administration" *Administrative Science Quarterly*, Vol. 11, No. 4, Special Issue on Universities as Organizations (Mar., 1967): 575-600.

Georgia State University *Rampway*

Georgia State University *The Signal*

Georgia State University *Annual Reports*

Georgia State University *Presidential Papers*

Herschel Kanter, Arnold Moore and Neil Singer, "The Allocation of Computer Time by University Computer Centers" *The Journal of Business*, vol. 41, no. 3 (Jul., 1968): 375-384.

Lucy Zabarenko and Ellen Williams, "The Computer Center as a Subculture" *Council on Anthropology and Education Newsletter*, vol. 2, no. 3 (Oct., 1971): 5-8.

Mark W. Oberle, "Campus Computers: Federal Budget Cuts Hit University Centers" *Science*, New Series, vol. 165, no. 3900 (Sep. 26, 1969): 1337-1339.

Paul Armer, Norman Nielsen and William Yundt, "Campus Computer Costs" *Science*, New Series, vol. 167, no. 3922 (Feb. 27, 1970): 1198-1199.

Peter G. Lykos, "The Computer Illiteracy Problem: A Partial Solution" *The American Mathematical Monthly*, vol. 81, no. 4 (Apr., 1974): 393-398.

Richard D. Yeo, "Reading the Higher Education Tea Leaves" *Educational Technology*, vol. 9, no. 8 (August, 1969): 50-52.

Samuel I. Bellman, "The Computer and the College Curriculum" *Improving College and University Teaching*, Vol. 16, No. 1 (Winter, 1968): 53- 57.

Seymour Smidt. "Flexible Pricing of Computer Services" *Management Science*, vol. 14, no. 10, Application Series (Jun., 1968): B581-B600.

Steven G. Krantz, *"Letters to the Editor" The American Mathematical Monthly*, vol. 91, no. 9 (Nov., 1984): 598-600.

Winifred Asprey, "Computers on the Campus: A Survey of Computer Activities in the Liberal-Arts College" *The Journal of Higher Education*, vol. 36, no. 9 (Dec., 1965): 500-506.