Sources for ACM History: What, Where, Why

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Thomas Haigh
University of Wisconsin—Milwaukee
1550 E Royall, #540, Milwaukee, WI 53202
thaigh@computer.org
(414) 526 6631

Elisabeth Kaplan
University of Minnesota—Twin Cities
kapla024@umn.edu
612 626 8191

Carrie Seib
University of Minnesota—Twin Cities
caseib@netzero.net
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During the six decades since its founding the Association for Computing machinery has accumulated a rich and varied history. We survey existing work related to this history, explain the importance of archives to historical work, examine the current state of ACM’s records, and review existing holdings of ACM materials in archives across the United States.

ACM History and the History of Computing

The history of the ACM cannot be separated from historical investigation of broader topics, such as computer science, scientific computing, the use of computers in business, and the development of information technology occupations. The history of computing, an interdisciplinary field including all these areas, has been studied by scholars since the 1970s and has now accumulated a rich and diverse literature. Historians of computing are represented by the Special Interest Group in Computers, Information and Society of the Society for the History of Technology (SHOT SIGCIS). Research in the field is published in IEEE Annals of the History of Computing and in journals devoted to the history of science, technology, and business.

Several comprehensive introductions to the history of computing for a general audience have been published [6, 9, 22]. An introduction to the academic study of the history of computing intended for the computer scientist is given in [14] and an annotated survey of key print and online resources in the history of computing in [15]. A number of surveys of source material for different aspects of the field are available, including archival resources [11], scientific computing [24], and online resources for software history [5].
No comprehensive history of the ACM has ever been written. The association itself has published short articles outlining its various milestones on the occasion of its 25th anniversary [20], its 40th anniversary [10], and the 50th anniversary of the Journal of the ACM [17]. Aspects of the association’s history have found their way into larger works, as part of recent doctoral dissertations. Atsushi Akera [1] has explored the association’s founding and its relations with the burgeoning Los Angeles aerospace industry of the 1950s. Nathan Ensmenger [12, 13] and Thomas Haigh [16] discussed the ACM’s relationship to broader questions of identity for computer people during the 1960s and 1970s.

Archives and Primary Sources – Why Do They Matter?

Memoirs and histories produced by participants in the events concerned have contributed much to our understanding of computing’s history. The best of these provide broad and painstakingly reconstructed accounts of important topics [21] [3]. Yet, as successive cohorts of pioneers and participants exit the stage, responsibility for recounting and interpreting the work of their generation inevitably falls to professionally trained historians, diligent amateurs, and interested journalists. Accurate history requires primary sources: original documents from the time of the events concerned, and so historians are drawn toward topics for which they can obtain such sources. When studying the history of an organization these sources include letters, minutes of meetings, reports and drafts as well as published sources such as newsletters, annual reports, conference proceedings, and journals. Unlike participants they cannot pull these materials from their personal files or the attics of their friends. Historians seek unpublished and hard-to-find published sources in archival collections and specialist libraries. Archivists
identify, select, organize and describe collections of papers donated by individuals and organizations. Academic archives are generally free and open to all researchers, though some corporations maintain closed archives for internal use. Historians usually travel in person to examine archival collections, since very little material is so far available online.

The objective of preserving sources on ACM history is not merely the creation of a single “History of the ACM” to be published in an elegant book and placed in libraries for the benefit of generations as yet unborn. Rather, an ACM archive would provide material to historians working on many different topics. Sometimes the association would be the main focus of their work (for example in a history of its founding or of one of its SIGs). It would appear more often as one of several institutions (for example in a history of the role of professional associations in the development of computer science, or a history of computer graphics). Frequently it would feature in just one chapter of a larger work (perhaps as a case study in a book on the role of scientific groups in public policy the late 20th century, or as part of a biography of an eminent computer scientist who once served on its Council).

In this sense, an organization’s ongoing presence in written history has as much to do with its archives as its accomplishments. Many organizations lack archives. Archival services are expensive and resource intensive, and most organizations and businesses must focus their resources on current business goals. So book after book, covering diverse topics, is written with material from a handful of organizations with exemplary public archives, such as MIT, the Rockefeller Foundation, Metropolitan Life, and the Royal Society of London. Much less is written about history of comparable universities,
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firms and scientific groups for which records are dispersed, fragmentary, closed, disorganized, or long-since destroyed.

**But ACM Does Not Have An Archive… Yet**

ACM itself has never established an archive, but has recently made important steps toward recognizing the historical value of its documentary heritage. This is important: unless an institution can be persuaded to care about its own history, very little can be done to uncover, let alone preserve, institutional memory. Evidence exists of various initiatives over the years, including a 1962 effort to create an “ACM Repository,” though this concerned the computing literature rather than ACM’s own operations [4].

In February 2004 the newly created ACM History Committee reported to the Executive Committee that “its central conclusion was that ACM… has an imperative to maintain a physical Archive of its material and to make this Archive accessible to historians.” [19] The History Committee sponsored an initial investigation of the association’s records, conducted during December 2005. ACM maintains a high volume of records in offsite storage, with more spread through file cabinets and boxes in its offices.

Significant quantities of valuable historical documentation were systematically destroyed in response to a 1991 ACM initiative to move to a paperless operation. Had a critical mass of historical documentation survived the organization’s first 60 years? Archivists analyzed manifests and listings, interviewed key ACM staff members and physically surveyed 286 cubic feet of records from offsite storage and ACM’s offices. Of these they identified 86 cubic feet as archivally valuable, including materials from all four of the organization’s core areas: administration, publications, membership, and SIG
services. Examples included a full run of council minutes, executive committee minutes, and annual reports, as well as subject files such as a set of 1996 records on a proposed name change. A report submitted to the ACM History Committee in January 2006 concluded that a tremendous amount of important, historical documentation survives, and should be managed by professionals and made available at an archival institution. ACM’s leaders have yet to decide when, where, or how this archive might be created.

**Existing Sources for ACM History**

The ACM’s official records and papers have been out of reach of historians, and it is unlikely that any more general history of the association will be attempted until this is remedied. Fortunately, archival institutions have already taken independent action to begin to preserve its heritage. The history of any volunteer professional organization is, in a sense, the history of the people who created it, who contributed time, expertise, and leadership, who staffed committees and chaired task forces, who supported, challenged, and brought new life to it. Among the most important ACM resources are personal and professional papers in the archives of colleges and universities with which these individuals are affiliated and in institutions with collecting strengths in history of computing, primarily the Smithsonian National Museum of American History (NMAH) and the Charles Babbage Institute (CBI) at the University of Minnesota. During the 1980s CBI made a concerted effort to locate and acquire collections related to ACM history [2].

Space does not permit a comprehensive discussion of relevant collections here, so instead we will give examples of different approaches to ACM history together with a selection of the most important sources for each.
The early days of ACM are the hardest to document, since the association was rather small for years after its founding in 1947 and did not begin publication of its Journal until 1953. The Edmund Berkeley Papers (CBI 150) at the CBI is one of the most valuable resources for ACM history. Berkeley was a founder of ACM, serving as its first secretary and its driving force for several years. These sources have already been drawn upon by several historians, including JoAnne Yates [23] and Bernadette Longo [18]. Minutes of the association’s first meetings and abstracts of early conference papers were collected by the National Bureau of Standards and are available in the National Bureau of Standards. Computer Literature Collection, 1945-1961 at NMAH.

The minutes and working papers of ACM committees and ACM council meetings are another vital historical source, together with private correspondence between the association’s officers. Thanks to the generosity of individual donors and the efforts of a few proactive and tenacious archivists (most notably Bruce Bruemmer, CBI’s first professional archivist) a significant fraction of this has been preserved and is available to researchers. A number of CBI collections include these materials for the 1960s and 1970s, including the Herbert S. Bright Papers (CBI 42 -- Secretary, Vice President and longtime Council member), the Bruce Gilchrist Papers (CBI 76 -- Secretary, Vice President), the Daniel D. McCracken Papers (CBI 42 -- President) and the George Glaser Papers (CBI 23 -- Treasurer). Similar material from other ACM Presidents can be found elsewhere in the George and Alexandra Forsythe Papers at Stanford University Archives, and the Bernie A. Galler Papers at the University of Michigan’s Bentley Historical Library. CBI’s Bryan S. Kocher Papers (CBI 103) includes Council and Executive Committee papers from the 1980s.
CBI and the National Museum of American History both house well-developed collections of oral history interview transcripts.⁠¹ Many of these are with pioneers who played important roles in the early ACM, such as Richard Hamming, Franz Alt, Paul Armer, Bernie Galler, Donn B. Parker and Willis Ware. Though not all these interviews discuss the association, they do serve to shed light on the experiences and backgrounds of its early leaders. The ACM History Committee assisted NMAH in digitizing some of its existing transcripts for online dissemination, and has funded new interviews with former ACM presidents Bernie Galler, Walter Carlson, Harry Huskey, Anthony Ralston, Anthony Oettinger and Franz Alt. Galler, who was also the first Editor-in-Chief of Annals of the History of Computing, was interviewed just months before he died.

The collection of ACM publications stored in its Digital Library is an important historical resource, as it includes the full run of Journal of the ACM and Communications of the ACM. Its value is about to increase further. ACM initially excluded large sections of its publications from the Digital Library, but on the advice of historians and archivists has begun to digitize the editorial and “non-article” parts of the publications. This will greatly enhance its value for historical researchers, who often look to announcements, organizational business reports, news notes, and reviews. Editorials, election statements

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¹ Oral history transcripts record conversations between interviewers and historical subjects. Some take place over many hours or days and cover the whole of a subject’s career, while others are shorter and more narrowly focused. Even the best interviews are heavily colored by hindsight and forgetfulness. They can give insights into character and personal motivations, but are often unreliable guides to dates, details and causes. Oral histories and other memoirs work best as an addition to primary sources, rather than as a replacement.
from candidates for national office, and the President’s Letters are a particularly valuable source of information on how people perceived the organization’s strengths, weaknesses, purpose, and priorities at different times.

ACM’s contributions to the development of computer science have come primarily through the efforts of its special interest groups, active from the 1960s onward. Availability of material here is patchy and, again, has relied on acquisition of materials from individual donors. SIG collections held at CBI include the SIGGRAPH Conference Publications (CBI 85), and the History of Programming Languages Conference Records (CBI 19), and papers related to SIGIR in the Calvin N. Mooers Papers (CBI 81). Many personal collections also include material on SIGs. For example, the early years of SIGBDP (later Sigmis) are covered in the George Glaser papers and in published articles by some of the participants [7, 8].

Many of the personal collections described above also contain material from local ACM chapters. The Los Angeles chapter was very active from the 1950s onward, and played an important role in the evolution of the association as a whole. Material from its founding is preserved in the Paul Armer Papers (NMAH 323). The Washington DC chapter is documented in the Herbert S. Bright Papers (CBI 42) and in the National Museum of American History collection ACM Washington DC chapter, 1958 – 1978.

The ACM has itself been a member of several organizations. ACM, along with the American Institute of Electrical Engineers and the Institute of Radio Engineers, founded AFIPS in 1961 to run a joint series of national computer conferences and to represent member societies on an international level in the newly formed International
Federation for Information Processing (IFIP). AFIPS was intended, by some at least, to represent and unite the “computing profession” as a whole, and the records provide a unique window into the concerns of its members. CBI holds several personal collections related to AFIPS, including the correspondence of Bruce Gilchrist, its president and executive director from 1966 to 1973. A separate collection, American Federation of Information Processing Societies Records (CBI 44), includes official material donated by AFIPS itself and by several individuals. During the 1970s the ACM also became a key sponsor of the newly created Institute for the Certification of Computing Professionals (ICCP), which has labored without great success for several decades to certify IT workers. Material on ICCP is found at CBI in the John K. Swearingen Papers (CBI 46) and the Institute for Certification of Computer Professionals Records (CBI 116) donated by ICCP in 1992.

Conclusion

Over the past half century the ACM has played an important role in shaping the evolution of the technologies, professions, disciplines, and applications of computing. But historians of the future cannot weave the association into their stories and document its accomplishments unless the source documents they require are properly archived. We hope that individuals active within the association will continue to donate their papers to archival repositories. Thanks to their efforts, many small fragments of the association’s history have been preserved. But if the ACM wants the historians of the future to stand a chance of piecing its full story together then it must act soon to safeguard its heritage.


