Computers, Information, and Everyday Life

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One way to view the literature on the history of computing is to consider the function of the computing device that comes under historical investigation. In the early days, the history of computing was about the computers of the 1940s and 1950s, which were essentially giant calculators. Thus, the scholarship was primarily about the construction of such devices and their use for scientific research and special computing-intensive, price-insensitive computing such as was carried out at nuclear weapons facilities.¹ Computers saw a period of usage in the 1960s and 1970s primarily as business machines-both large machines for databases and smaller computers for less demanding business applications-and some historical accounts were written about these developments.² In the 1980s, we entered a period in which computers became smaller and more affordable, and the new utility of the computer was for personal use, as a communications and entertainment device. New uses of computers supplement rather than supplant old uses of computers. So, we still have scientific calculators, business database machines, and personal computers in the modern era. This article focuses on the computer as a personal machine as a device to gather information through email and Web searches, and hence the focus is on the period starting in the early 1990s and carrying forward to the present.

Historians of computing are typically focused on information technology (including its uses), while information science scholars often focus instead on information and its organization, even if information technology plays an important supporting role. The particular concern in this case study is everyday information-seeking behavior, or everyday information for short. Early studies of information seeking carried out as early as the 1930s often focused on the role of mass communication channels in providing information or on the role of information institutions such as museums, archives, and especially libraries. Beginning in the Cold War era, an emphasis was given to how scientists seek information and how to improve their information searches. Much of the early literature focused more on institutions or artifacts (libraries, newspapers, or scientific journals) than on the behavior of individuals who are seeking information.

Beginning in the 1970s, but accelerating in the 1990s, studies began to appear of everyday information-seeking behavior. Such studies look at what individuals do when they seek information, not at work but instead in their private, everyday lives when they need information for a task (such as to buy a car or pursue a hobby) or as they collect background information (such as to be aware of the latest fashions even if they are not shopping for a dress or to know more about cancer even if they or a loved one does not have the disease).³

Information-Seeking Behaviors

There have always been many sources for someone seeking everyday information, including mass media, libraries, family and friends, trusted advisors such as clergymen, experts such as doctors or lawyers, salespeople, and sales literature. Once the Internet became well established, there was a sense that the world of everyday information seeking had entirely changed. This is actually a largely unexplored belief, and there is good evidence that all the sources of information that existed prior to the Internet continue to be consulted frequently. Given that historians of computing are interested in understanding the ways in which information technologies such as the PC, laptop, mobile smartphone, and Internet affect and are integrated into the world, the purpose of this case study is to give some background about this area of research and encourage further studies by computer historians, who bring a complementary knowledge to the topic than that offered by the information scientists.

The literature on information behavior is vast. Donald Case's *Looking for Information* cites more than 1,100 articles. Even if we leave out the literature on information searching at work or information-seeking behavior in information institutions such as libraries, archives, and museums, the literature remains large. For example, Reijo Savolainen's *Everyday Information Practices* has a bibliography that runs 14 pages.³ Only a tiny fraction of that literature focuses on the Internet, and much of the information studies literature in this area focuses on issues such as information credibility and information overload as much as on using the Internet as an information-gathering device.⁴

A second body of literature that has relevance here is the literature on the Internet and everyday life. This is a small and somewhat recent literature. The breakout book in this field was an edited volume by the sociologist Barry Wellman and the information studies scholar Carolyn Haythornthwaite, *The Internet in Everyday Life*, which has case studies from the United States, Canada, Britain, Germany, India, and Japan.⁵ The book was followed by two small, but good ethnographic studies, one *continued on p. 94* There has been little comparative analysis of everyday information seeking behavior across specific populations organized by nationality, race and ethnicity, or socioeconomic status.

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about Canada by Maria Bakardjieva and another about Australia by Elaine Lally.⁶

The scholarship on everyday information draws from many academic literatures.⁷ For example, Maria Bakardjieva, in the first two chapters of her book, sets the reader off on a breathtaking tour of modern thought that draws upon the work of cultural theorist Raymond Williams and the media studies literature on domestification of commodities by Roger Silverstone and others; notions of the social construction of objects coming from the social construction of technology scholarship of Wiebe Bijker and Trevor Pinch and from critical theorist Andrew Feenberg's work on the democratic rationalization of technology; notions of interpretive flexibility of objects from Steve Woolgar, Madeleine Akrich, and Bruno Latour; the phenomenological relations between humans and technology as found in the sociological phenomenology of Alfred Schutz and Thomas Luckman as well as the hermeneutic analysis of technology by Don Ihde; Michel de Certeau's work on the activist role of the user in shaping everyday life; and socio-cultural psychology studies of technology as language as found in the work of Lev Vygotsky, James Wertsch, Valentin Voloshinov, and Mikhail Bakhtin.⁸ One of the common approaches to these everyday information studies is to focus on information practices, and much of this literature is influenced by the structuration theory of Anthony Giddens and especially by Pierre Bourdieu's notion of habitus.9 Other scholars who are considered for their writings on the everyday include Agneta Heller, Henri Lefebvre, and Georg Lukacs.

Toward a History of Information in Everyday Life

Note that none of this literature is historical. A few years ago, Barbara Hayes and I edited a book that introduced historical investigation into this literature on everyday information.¹⁰ Our book considers nine examples of everyday information seeking, ranging from buying a car to making charitable donations to seeking government information to participating in hobbies such as fantasy sports or gourmet cooking. These studies identify the questions asked and sources consulted in carrying out a particular everyday activity, how the questions and sources change over time, and the various exogenous and endogenous forces that cause these changes. The work was influenced by the writings of the sociologist Andrew Abbott, who argues that one learns much from dynamic tensions played out in time rather than static snapshots of everyday seeking, which is what one gets typically from other scholarly approaches such as ethnographic study.¹¹

Our *Everyday Information* just scratched the surface of this topic, however. The book examined everyday information seeking only in America—and in fact, primarily in middle class America.¹² There has been little comparative analysis of everyday information-seeking behavior across specific populations organized by nationality, race and ethnicity, or socioeconomic status. There has been little historical study about how the Internet is integrated into the information searches in everyday life and whether the Internet's use in this context has changed over time.

Here are some possible questions for the computer historian to consider:

- Does the presence of information and communications technology (ICT) affect the nature of everyday life and hence lead to different types of everyday information searches than were done in an era when ICT was not as prevalent in the home?
- Does the presence of ICT affect the questions that are asked in everyday life, for example, questions about managing one's identity or about one's privacy?
- Does the presence of ICT affect the expected outcomes of everyday information searches?
- To what extent are there differences in perception among uses about the reliability and salience of information found on

the Internet compared with other information sources?

- Does the presence of ICT change the other means by which people have historically sought information?
- What kinds of information will an individual use the Internet to seek out, and what kinds of questions are left to other sources?
- How are various sources, including the Internet, integrated with one another to carry out searches?

Looking at influences in the other direction, there has been little historical examination about how this specific use and this specific set of users have shaped the development of personal computers, the Internet, and the practices surrounding them. These are some of the many questions about everyday information where historians of computing may have something to add.

References and Notes

- An example of this line of scholarship is
 H. Goldstine, The Computer from Pascal to Von Neumann, Princeton Univ. Press, 1980.
- 2. An example of this line of scholarship is M. Campbell-Kelly and W. Aspray, *Computer: A History of the Information Machine*, 1st ed. Basic Books, 1996. Later editions are a blend of this line of argument and arguments about the computer as a personal device.
- 3. For an overview of all the information science literature on information seeking behavior, not just everyday information seeking, see D.O. Case, Looking for Information: A Survey of Research on Information Seeking, Needs, and Behavior, 2nd ed., Emerald Group Publishing, 2006. For an overview of the literature on everyday information scholarship, see R. Savolainen, Everyday Information Practices: A Social Phenomenological Perspective, Scarecrow Press, 2008.
- 4. Scattered throughout Savolainen's book are various passages on the Internet, and Savolainen does a good job of citing the relevant literature in these sections.
- 5. B. Wellman and C. Haythornthwaite, eds., *The Internet in Everyday Life*, Wiley-Blackwell, 2002.
- M. Bakardjieva, Internet Society: The Internet in Everyday Life, Sage Publications, 2005; E. Lally, At Home with Computers, Berg Publishers, 2002.
- One gets a good start in understanding the literature on everyday information by looking at the references in the Bakardjieva, Case, and Savolainen books. However, also see C. Courtright, "Context in Information Behavior Research," Ann. Rev. Information Science and Technology, vol. 41, 2007, pp. 273–306, and K.M. Spurgin, "Everyday

Information Organization Practices in the Pursuit of Leisure: The information Organization, Management, and Keeping Activities of Amateur Art Photographers," literature review, School of Library and Information Science, Univ. of North Carolina, Chapel Hill, 5 May 2008; www.infomuse. net/papers/litreview.pdf.

- 8. See Chapters 1 and 2 for an extensive discussion of the theory behind the Internet and everyday life.
- 9. Perhaps the best example of study of this genre is Savolainen's *Everyday Information Practices*. One can imagine the everyday information scholars drawing from the work of the social media scholars who have looked at online behavior, from Lambda Moo to Second Life, or from the work of scholars who look at online behavior in the context of computer-supported cooperative work. However, there seems to have been little drawing from these literatures to date.
- W. Aspray and B. Hayes, eds., Everyday Information: The Evolution of Information Seeking in America, MIT Press, 2011.
- In particular, see A. Abbott, The System of Professions: An Essay on the Division of Expert Labor, Univ. of Chicago Press, 1988.
- 12. There are a number of Scandinavian scholars, notably the Finnish scholar Reijo Savolainen, and many of their studies are taken from their home countries. There are relatively few studies covering everyday information behavior in other parts of the world. The leading scholar on information seeking by disadvantaged populations in the United States is the late Alfreda Chatman. Her work is referenced in the books by Savolainen and Case. There is an unstated and largely unexplored belief that information search is different for disadvantaged groups because of their lack of access to technology or other sources of information or because of their lack of education to carry out sophisticated searches and do a thorough job of evaluating the credibility of the information they gather. Thus, there has been little motivation to look at information-seeking behavior of wealthy populations. But if there are class differences, not only access and educational differences at play, there may be value in studying the informationseeking behavior of wealthy populations.

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