

Saving-Over, Over-Saving, and the Future Mess of Writers' Digital Archives: A Survey Report on the Personal Digital Archiving Practices of Emerging Writers

Devin Becker and Collier Noguees

Abstract

This article reports findings from a survey of 110 writers' personal digital archiving practices. The authors found that most writers neglect digital archival concerns, and consequently, their digital archives consist of poorly managed, highly distributed, and unsystematically labeled files. Writers are not entirely to blame for their neglect, however, as they develop archival practices idiosyncratically, with little or no guidance from information professionals, and 80% indicate they would welcome instruction on digital preservation. The authors recommend that archivists actively approach writers to offer guidance on the best and simplest ways to organize and archive their files so as to prevent further losses.

Soon special collections and archives departments will be collecting the papers of authors whose oeuvres have been primarily composed, organized, and archived using computers or other electronic devices. While this represents, as do most digital advances, a boon in terms of decreased need for physical space, the ephemeral nature of the digital media in which these authors write may lead to the loss of material for scholars, librarians, and researchers; writers' drafts, revisions, notes, and correspondence may be saved-over, deleted, or lost amid the unorganized, poorly labeled mess of digital files most produce on a day-to-day basis.¹

© Devin Becker and Collier Noguees

¹ This is not a new threat. See Terry Kuny, "The Digital Dark Ages? Challenges in the Preservation of Electronic Information," *International Preservation News*, no. 17 (1998): 8–13.

Writers are not blind to these threats. Take, for example, this prediction from novelist Zadie Smith quoted in a *New York Times* article: "I guess [email correspondence]² will all go the way of everything else I write on the computer—oblivion. I don't have a single early draft of any novel or story. I just 'saved over' the originals until I reached the final version. All there is is the books themselves."³ If this is the case and Smith is pressing Ctrl-S at the end of each writing session to "save-over" each draft with a revised version, her writing/archival practice seems to result in a substantial loss of material for future Smith scholars.

But her comment also introduces a new way of thinking about how writers understand the intersections of their writing and archiving processes. Smith's personal archival practices are just that, *personal*, and the files she produces, or the lack thereof, are as telling about her mode of writing as a folder full of drafts, notes, and revisions. Furthermore, Smith's practice is not unprecedented or unusual. The digital forensics community has been dealing with similar issues for years and has developed ways to re-create the several versions of a file from the file itself.⁴ As Matthew Kirschenbaum notes in his blogged response to the *New York Times* article mentioned above, existing techniques can salvage the drafts Smith believes have been lost to oblivion.⁵

To investigate how emerging and established writers are archiving their work, as well as how their personal archiving practices influence what they write, how they write, and how they conceptualize their bodies of work, we conducted an anonymous, online survey of 110 poets, essayists, and fiction writers in 2011. We discovered that while format obsolescence and hard-drive failures continue to threaten writers' digital files, the more present problem and future worry, in terms of the survival and coherence of a writer's archives, may be the accumulation of poorly managed, highly distributed, and unsystematically labeled files, representing works of writing in myriad versions and in various states of completion. After analyzing and discussing these discoveries, we

² Admittedly, our study's largest omission is the email/correspondence practices of writers, as much of the true archival material of their lives resides in their email accounts. We definitely hope to look at this issue in more depth in the future; in the meantime, we would like to point interested archivists to Christopher Prom's recent report, which was published by the Digital Preservation Coalition (DPC) as part of its Technology Watch Reports series: Christopher Prom, *Preserving Email*, Digital Preservation Coalition, DPC Technology Watch Report 11-01 (December 2011), http://www.dpconline.org/component/docman/doc_download/739-dpctw11-01pdf, accessed 2 March 2012.

³ Rachel Donadio, "Literary Letters, Lost in Cyberspace," *New York Times*, 4 September 2005, <http://www.nytimes.com/2005/09/04/books/review/04DONADIO.html?pagewanted=print>, accessed 28 May 2011.

⁴ V. Rousseev, "Hashing and Data Fingerprinting in Digital Forensics," *IEEE Security and Privacy* 7 (2009): 49-55.

⁵ Matthew Kirschenbaum, "Lost and Found in Cyberspace," *MGK*, 2 October 2005, <http://otal.umd.edu/~mgk/blog/archives/000848.html>, accessed 30 September 2011. See also Kirschenbaum's announcement regarding a new Guggenheim-supported project, "Track Changes: Authorship, Archives, and Literary Culture after Word Processing," *Matthew Kirschenbaum*, 10 April 2011, <http://mkirschenbaum.wordpress.com/2011/04/10/track-changes/>, accessed 30 September 2011.

concluded that writers, due to a lack of knowledge and instruction in archival practices, do not, at this current time, sufficiently value their digital files. To counteract this trend, we developed and now recommend below some basic actions writers and archivists might take that we hope will prove beneficial to both groups.

Literature Review

Similar Research

Several survey studies of personal digital archival practices preceded ours. Members of the Digital Lives project from the Digital Curation Centre in England conducted the study that most closely resembles ours, although its aims and scope are much larger. While they have not officially published or publicized all their findings, the Digital Lives Research Project released an initial synthesis of their results as a “Beta Version 0.2” in March of 2010.⁶ That document details several different survey- and interview-based approaches. The first project was an analysis of the digital archiving practices of 25 established and emerging artists and scholars.⁷ Through in-person interviews, they found that although some trends emerged, for the most part their subjects’ saving, backup, and organizational practices were widely divergent.⁸

The project also conducted a large, online survey of both academics and the “digital public” that culled information about each group’s practices and attitudes and found, ultimately, that the outlook for the long-term preservation of their digital items is “unpropitious.”⁹ More specifically, the survey found that, although academics and the digital public generally aim to back up their digital files, both groups possess little awareness of the technical requirements for long-term digital preservation. The survey covers a large swath of issues related to personal digital archiving, and our own study reflects many of its findings—particularly that users would like to improve their digital archival practices but lack the technical ability and knowledge to do so.

The Digital Lives research project is an amazingly complex endeavor that is worthy of continued study and attention. Our more focused study, however,

⁶ Jeremy Leighton John, Ian Rowlands, Pete Williams, and Katrina Dean, *Digital Lives: Personal Digital Archives for the Twenty-first Century, an Initial Synthesis* (Digital Lives Research Paper, Beta Version 0.2), 3 March 2010.

⁷ Pete Williams, Katrina Dean, Ian Rowlands, and Jeremy Leighton John, “Digital Lives: Report of Interviews with the Creators of Personal Digital Collections,” *Ariadne*, no. 55 (April 2008), <http://www.ariadne.ac.uk/issue55/williams-et-al/>, accessed 05 September 2011.

⁸ Williams et al., “Digital Lives: Report of Interviews with the Creators of Personal Digital Collections.”

⁹ John et al., *Digital Lives: Personal Digital Archives for the Twenty-first Century, an Initial Synthesis*, xi.

fills a pressing need in the field of archival studies generally. Even though writers' archives continue to make up a substantial and privileged percentage of the holdings in special collections and archives throughout the English-speaking world, little study has been done of writers' organizational and archival practices.¹⁰ Kirschenbaum et al. specifically note the lack of literature on the digital practices of writers in a white paper report from a 2009 NEH-funded project,¹¹ and even though societies¹² and researchers dedicated to the study and promotion of literary archives are increasingly concerned with both the digital *and* personal nature of writers' archives, much work remains to be done.

Of the work already completed, Catherine Hobbs's articles are especially helpful in establishing the reasoning behind approaching individuals,' and especially writers,' archives more personally. Hobbs is the literary archivist at Library and Archives Canada. Her article, "The Character of Personal Archives: Reflections on the Value of Records of Individuals," points out that older models of archival acquisition and appraisal are based on governmental and administrative paradigms, and their applications to the personal records of individuals are therefore inadequate.¹³ Hobbs argues that personal archives, especially those of writers, need to paint not just the transactional nature of an individual's work and the networks in which he or she completed that work, but also provide evidence of that individual's particular character through the drafts and notes, starts and failures, they inevitably produce.¹⁴

¹⁰ Our study should also help archivists think about and plan for the digital archives of nonwriters who will also be donating their records in the future, as writers' practices are not so specialized as to be unique in this regard.

¹¹ See Matthew Kirschenbaum, Erika Farr, Kari M. Kraus, Naomi L. Nelson, Catherine Stollar Peters, Gabriela Redwine, and Doug Reside, *Approaches to Managing and Collecting Born-Digital Literary Materials for Scholarly Use* (white paper), May 2009, National Endowment for the Humanities, "Office of Digital Humanities," <http://www.neh.gov/ODH/Default.aspx?tabid=111&id=37>, accessed 15 September 2011. The NEH-funded project consisted of a series of workshops and conferences among digital archivists and scholars that looked closely at how several institutions—including the Harry Ransom Humanities Research Center at the University of Texas at Austin and Emory University's Manuscripts Archives and Rare Books Library (MARBL)—were dealing with born-digital archival material.

¹² The Group for Literary Archives and Manuscripts and the Group for Literary Archives and Manuscripts (North America)—GLAM (<http://glam-archives.org.uk/>) and GLAM(NA) (<http://glamna.org/>) respectively, accessed 15 September 2011—both work to bring together librarians, archivists, researchers, and others who are interested in literary archives. In Canada, the Special Interest Section on Personal Archives section of the Association of Canadian Archivists provides forums, expertise, and resources for the discussion and promotion of personal archives, <http://archivists.ca/content/special-interest-section-personal-archives>, accessed 15 September 2011.

¹³ Catherine Hobbs, "The Character of Personal Archives: Reflections on the Value of Records of Individuals," *Archivaria* 52 (Fall 2001): 126-135.

¹⁴ Hobbs, "The Character of Personal Archives," 132-33.

Personal Digital Archiving

Studies such as the Digital Lives project, our own inquiry, and more personally focused studies such as Hobbs's work are now being gathered under a new field of inquiry aptly named "personal digital archiving." Much work has been done on this subject already in both archival and records management (ARM) studies and personal information management (PIM) studies, but in the last few years, the personal digital archiving field has begun to come into its own, through the efforts of scholars such as Jeff Ubois, who organizes the now annual Personal Digital Archiving (PDA) conference;¹⁵ Christopher A. Lee, who edited and contributed to the new and important book, *I, Digital: Personal Collections in the Digital Era*;¹⁶ and Cathy Marshall, a Microsoft researcher whose work frames much of the discussion in the discipline.¹⁷

Many of Marshall's articles on personal digital archiving are pertinent to our study, but her 2006 article, "The Long Term Fate of Our Personal Digital Belongings: Toward a Service Model for Personal Archives," co-authored with Sara Bly and Françoise Brun-Cottan, best elucidates the idea of "benign neglect," a historically intriguing phrase¹⁸ that Marshall uses to describe the behavior of most of her research subjects toward their digital belongings.¹⁹ The article involves a field study of consumers' digital archiving practices; the authors aimed to use the findings to build a long-term archival service for consumers' digital belongings. Marshall et al. found that their participants were able and even sophisticated "creators of a variety of types of digital belongings," but that their abilities were often mixed with a lack of understanding of computer technologies, a lack often evidenced by a fatalistic and helpless attitude toward

¹⁵ See the conference website, <http://www.personalarchiving.com/>, accessed 21 September 2012, for videos and slides of presentations given at the conference. The authors presented their initial findings at Personal Digital Archiving 2011, the video for which can be found here at Digital Archive, "Moving Images," <http://www.archive.org/details/PDA2011-devinbecker-colliernogues>, accessed 21 September 2011.

¹⁶ Christopher Lee, ed., *I, Digital: Personal Collections in the Digital Era* (Chicago: Society of American Archivists, 2011).

¹⁷ Marshall gave the keynote address at the Personal Digital Archiving Conference in 2011. Catherine Marshall, "or 'People Are People and Things Change'" (PowerPoint slides presented at the Personal Digital Archiving conference, San Francisco, Calif., 24 February, 2011), <http://research.microsoft.com/en-us/people/cathymar/pda2011-for-web.pdf>, accessed 20 September 2011.

¹⁸ See *Wikipedia*, s.v. "Benign neglect," http://en.wikipedia.org/wiki/Benign_neglect, accessed 20 September 2011. According to *Wikipedia*, the term "benign neglect" was initially a race relations policy proposed in the 1970s by Senator Daniel Patrick Moynihan to help assuage some of the tensions still roiling from the civil rights movement of the 1960s and is now used more freely to describe a "laissez-faire" type of policy used when one believes a lack of involvement will improve or, at least, not harm, a neglected group.

¹⁹ Catherine Marshall, Sara Bly, and Françoise Brun-Cottan, "The Long Term Fate of Our Personal Digital Belongings: Toward a Service Model for Personal Archives," in *Proceedings of Archiving* (Ottawa: Society of Imaging Science and Technology, 2006), 25–30.

technological change.²⁰ Moreover, the authors found that the majority of their subjects had already lost valuable digital belongings, and yet most were resigned to the fact that losses of this kind—due to viruses, deletion, file format difficulties, and other issues—are inevitable. The researchers found that their subjects' mixture of sophistication and helplessness led them to believe "that backup and file replication" are sufficient strategies to address their long-term archival needs. Further, even these strategies—which the researchers argue are sufficient only in the short term and should not be conflated with "real archiving"—are "inconsistently implemented," even though the participants had personal evidence that this inconsistency would likely lead to the loss of files.²¹

Marshall et al. note that as much as their participants, and even the researchers themselves, might try to adhere to personal backup policies, "We scarcely notice when benign neglect takes over and we begin to rely on everyday replication tactics to keep our digital belongings safe."²² *Benign neglect* can thus be defined as a default approach to digital archiving that uses easily accessible, everyday computing functions to back up one's digital belongings and operates with an inherent acceptance of the "incipient loss" these practices often induce.²³

The problem does not seem to be a lack of technological tools—despite the past decade's advancements in personal and business archiving software, personal archiving techniques and practices lag far behind. In a 2007 article, Marshall, along with Frank McCown and Michael Nelson, looked at how people curate their online digital materials and found that "[p]articipants continue to archive personal assets by relying on a combination of benign neglect, sporadic backups, and unsystematic file replication."²⁴ Then, in 2008, Marshall summarized her findings in this and earlier articles in a two-part piece published in *D-Lib Magazine*, reiterating forcefully and succinctly the dangers of relying on

²⁰ Marshall et al., "The Long Term Fate," 26.

²¹ Marshall et al., "The Long Term Fate," 26.

²² Marshall et al., "The Long Term Fate," 25.

²³ Marshall et al., "The Long Term Fate," 27. This is not to say that benign neglect as an archival practice is all bad. Indeed, Marshall, at the Personal Digital Archiving symposium in 2010, invoked G. Thomas Tanselle's observation that "... neglect can sometimes be an artifact's best friend." Marshall also uses the example of her own vinyl record collection: a friend of hers "archived" the collection in the 1970s by recording the records on reel-to-reel tape, a medium that is now exceedingly difficult to access, while phonograph records and record players are still commercially produced and available. See Catherine Marshall, "If I Only Had 10 Minutes to Talk about Personal Archives: 3 Things I've Learned + 1" (PowerPoint slides presented at the Personal Digital Archiving conference, San Francisco, Calif., 16 February 2010), <http://www.personalarchiving.com/wp-content/uploads/2010/02/Marshall-PDA-Feb2010.pdf>, accessed 20 August 2011.

²⁴ Catherine Marshall, Frank McCown, and Michael Nelson, "Evaluating Personal Archiving Strategies for Internet-based Information," in *Proceedings of Archiving* (Ottawa: Society of Imaging Science and Technology, 2007), 151–56.

simple file replication and backup procedures as sufficient archiving techniques over the long term.²⁵

Most recently, Marshall contributed a chapter, “Challenges and Opportunities for Personal Digital Archiving” to the book *I, Digital*. In this chapter, Marshall reiterates many of her findings and anecdotes regarding the personal digital archiving practices of everyday users of digital technology. She expands on her premise by examining more closely the ways users maintain and delete their files, concluding, “Thus, if we return to our earlier realization—it is easier to *keep* than to *cull*—we can further muse that it is easier to *lose* than to *maintain*.”²⁶ These realizations, Marshall continues, encapsulate “benign neglect as a personal digital archiving strategy,” and any technical or nontechnical solutions for personal digital archiving “should acknowledge the human tendency toward benign neglect.”²⁷ Again, for Marshall, this acknowledgment is not a call for an overarching, centralized solution for all users’ personal files; rather, Marshall is acknowledging that human nature—users’ proclivities, desires, needs, and tendencies—must be a paramount consideration when thinking about personal digital archiving studies and solutions.

Personal Information Management and the Archives

Marshall writes from the perspective of the personal information management (PIM) field, generally—an employee of Microsoft, she frames many of her articles on personal archiving toward recommendations for future personal archival systems—and even argues that her work “provides traction on a set of slightly different issues” than archival theory.²⁸ Marshall’s work, nevertheless, influences archives and records management (ARM) scholars, and one, Amber Cushing, has attempted to demonstrate its associations with traditional archival theory by assimilating Marshall’s research into historical

²⁵ Catherine Marshall, “Rethinking Personal Digital Archiving Part 1: Four Challenges from the Field,” *D-Lib Magazine* 14 (April 2008), <http://www.dlib.org/dlib/march08/marshall/03marshall-pt1.html>, accessed 15 August 2011. Catherine Marshall, “Rethinking Personal Digital Archiving Part 2: Implications for Services, Applications, and Institutions,” *D-Lib Magazine* 14 (April 2008), <http://www.dlib.org/dlib/march08/marshall/03marshall-pt2.html>, accessed 15 August 2011.

²⁶ Catherine Marshall, “Challenges and Opportunities for Personal Digital Archiving,” in *I, Digital: Personal Collections in the Digital Era*, 90–114 (original emphasis).

²⁷ Marshall, “Challenges and Opportunities for Personal Digital Archiving,” 110–11.

²⁸ Catherine Marshall, “How People Manage Information over a Lifetime,” in *Personal Information Management*, ed. William P. Jones and Jaime Teevan (Seattle: University of Washington Press, 2007).

archival theories and terms.²⁹ Cushing is most convincing in this regard when she discusses archival theories related to the recruitment and development of donors.³⁰ She implies that, like Marshall's consumers, archivists and the institutions they represent practice a form of benign neglect when, instead of cultivating the archival practices of future donors, they simply accept what comes to the archives when it arrives.³¹

Marshall, however, is not the only practitioner in the PIM field who has caught archivists' attention. Indeed, the first essay in *I, Digital*, looks broadly at the intersections between the ARM—in this case, a subset referred to as electronic recordkeeping (ERK)—and PIM communities' practices, finding the two research communities have much “to learn from each other.”³² In the essay, the book's editor, Christopher A. Lee, and his co-author, Robert Capra, provide excellent summaries of both research communities' foundational ideals. They then examine the similarities and differences between their orientations in several different categories, even providing a helpful table for comparison.³³ The two conclude that one of the major, shared areas of interest for future research in both communities is the “identification, crafting, and advocacy of appropriate incentives for good personal digital curation.”³⁴ Lee and Capra's findings mesh with those in much of the literature, and particularly with results from our own survey, in finding that individuals lack, and yet need and desire, effective digital archiving systems and education.

²⁹ Amber L. Cushing, “Highlighting the Archives Perspective in the Personal Digital Archiving Discussion,” *Library Hi Tech* 28 (2010): 301–12. Cushing, “Highlighting the Archives Perspective,” 307. While the attempt at associating and assimilating Marshall's work into traditional archival theory and practice works well in some places and not so well in others, as Cushing herself notes, Cushing's comparisons between archivists' methods of appraisal as a possible solution to Marshall's stated problem of accumulation seems forced: the idea that individuals will follow or could be trained to follow a professional's procedural best practices when even archivists have trouble following these procedures in their personal digital lives, according to our survey and Marshall's studies, is therefore somewhat problematic.

³⁰ Cushing, “Highlighting the Archives Perspective,” 304.

³¹ Cushing, “Highlighting the Archives Perspective,” 304. Cushing notes that a more active approach to donation has become popular in the archival community because “if archivists waited for the individual creator to approach the archive, records would be lost.” This has an obvious, but larger, correlate with Marshall's idea of benign neglect—namely that neglecting donors will lead to the loss of valuable material—and points to the importance of looking at these issues from institutional, in addition to individual, perspectives.

³² Christopher A. Lee and Robert Capra, “And Now the Twain Shall Meet: Exploring the Connections between PIM and Archives,” in *I, Digital: Personal Collections in the Digital Era*, 37.

³³ Lee and Capra, “And Now the Twain Shall Meet,” 39.

³⁴ Lee and Capra, “And Now the Twain Shall Meet,” 61.

I, Digital | We, Digital

Many other chapters in *I, Digital*, are, unsurprisingly, pertinent to this study as well. Sue McKemmish's chapter, "Evidence of Me...in a Digital World,"³⁵ updates her seminal article, "Evidence of Me,"³⁶ which originally appeared in 1996 and explored the "witnessing"—the bearing of evidence about the individual and the collective—that is inherent to any recordkeeping activity. Her updated article looks at the ways the digital world forms and reforms the nature of archives and archivists. McKemmish argues that digital technologies will only be optimized by "partnerships involving institutions, organizations, communities and individuals" and that these partnerships have already and will continue to extend the scope of archives generally by extending archival practices and relationships further into the public and personal realms.³⁷

Adrian Cunningham's chapter, "Ghosts in the Machine: Towards a Principles-Based Approach to Making and Keeping Digital Personal Records," takes as a given McKemmish's assertion regarding the importance of institutional/individual relationships.³⁸ Cunningham proposes 12 guiding principles to help archivists develop programs to assist creators of personal digital records. Through his 12 principles, Cunningham calls for improved organization, contextualization, disposal, capture, and monitoring of personal digital records. He intends these principles to be considered and possibly adopted by archival professionals, not individual users, because he feels archivists' participation in digital record creation and maintenance needs to be expanded, as the threat of losing information permanently in the digital world is greater than it is in the physical world.³⁹

As McKemmish's and Cunningham's works demonstrate, institutional perspectives and practices must, both practically and theoretically, inform approaches to personal digital archiving. The literature beyond *I, Digital* reflects this as well. In a recent *American Archivist* article, Michael Forstrom details how Yale University's Beinecke Library Manuscript Department uses international guidelines and standards to assess and maintain the authenticity of electronic files.⁴⁰ Forstrom argues, like Cushing, that archivists and others dealing with

³⁵ Sue McKemmish, "Evidence of Me . . . in a Digital World," in *I, Digital: Personal Collections in the Digital Era*, 115–48.

³⁶ Sue McKemmish, "Evidence of Me . . .," *Archives and Manuscripts* 24 (1996): 28–45.

³⁷ McKemmish, "Evidence of Me . . . in a Digital World," 134.

³⁸ Adrian Cunningham, "Ghosts in the Machine: Towards a Principles-Based Approach to Making and Keeping Digital Personal Records," in *I, Digital: Personal Collections in the Digital Era*, 78–89.

³⁹ Cunningham, "Ghosts in the Machine," 80–82.

⁴⁰ Michael Forstrom, "Managing Electronic Records in Manuscript Collections: A Case Study from the Beinecke Rare Book and Manuscript Library," *The American Archivist* 72 (Fall/Winter 2009): 168–85.

electronic archives need to be “proactive” in their approaches.⁴¹ Neil Beagrie also writes about the implications of personal digital libraries for individuals and their institutions⁴² while looking at the technical infrastructures needed to collect these materials.⁴³ He argues that “memory institutions,” such as archives, libraries, and museums, should use their experience to help inform the development of “memory systems for individuals”⁴⁴ and that digital archiving skills need to be taught to all users of digital tools, not only to researchers and information professionals.⁴⁵

Partly in response to studies like those mentioned above, the recently completed AIMS Project set out to create a framework for stewarding born-digital content. The AIMS Project’s report, *AIMS Born-Digital Collections: An Inter-Institutional Model for Stewardship*, describes how the participants in the project—professionals from Yale University, the University of Hulls, Stanford University, and the University of Virginia—ultimately decided not to provide a comprehensive digital stewardship framework because, as they found in their research, the technological tools and stability needed to adhere to one are not available in most institutions.⁴⁶ In identifying this predicament, they determined it would be most beneficial to define good practice and objectives for digital archivists. They do so by providing case studies that detail the decision points, tasks, and keys to success for foundational digital stewardship endeavors, such as the arrangement and description of born-digital content.⁴⁷

No “I, Digital” Is an Island

Because of their networked nature, future and current personal digital archives are distributed, collaborative, and social spaces in ways they never were before. Our sources all agree or imply that something should be done to combat

⁴¹ Forstrom, “Managing Electronic Records,” 185.

⁴² Neil Beagrie, “Plenty of Room at the Bottom? Personal Digital Libraries and Collections,” *D-Lib Magazine* 11 (June 2005), <http://www.dlib.org/dlib/june05/beagrie/06beagrie.html>, accessed 10 March 2012.

⁴³ Neil Beagrie, “Digital Curation for Science, Digital Libraries, and Individuals,” *The International Journal of Digital Curation* 1 (2006), <http://www.ijdc.net/index.php/ijdc/article/view/6>, accessed 10 March 2012.

⁴⁴ Beagrie, “Plenty of Room at the Bottom?,” 3.

⁴⁵ Beagrie, “Digital Curation for Science,” 12–13.

⁴⁶ AIMS Work Group, *AIMS Born-Digital Collections: An Inter-Institutional Model for Stewardship*, 2012, http://www2.lib.virginia.edu/aims/whitepaper/AIMS_final.pdf, accessed 10 March 2012.

⁴⁷ As the participants note, the AIMS Project builds on several important previous and related projects—including the Paradigm (Personal Archives Accessible in Digital Media) Project; the Digital Lives project we mention earlier; reports, such as the Council on Library and Information Resources (CLIR) report, Digital Forensics and Born-Digital Content in Cultural Heritage Collections; and collections, such as Salman Rushdie’s Digital Life, held by Emory University’s Manuscript, Archives and Rare Books Library (MARBL).

the problem of poor personal digital archiving practice, and all also agree or imply that the solution to this problem must be addressed, both technically and interpersonally, through the tools and relationships institutions enable between information professionals and those they serve. This theme then—“No ‘I, Digital’ Is an Island”—pervades the literature, and, as such, our hope is that the trends we discovered in individual writers’ practices should help archival institutions and professionals prepare for stewarding future troves of digital files. We also hope to encourage archivists to become more active in educating and advising possible donors and the general public about sound personal digital archiving practices, while at the same time keeping enough distance to allow these archives to retain their personal and personally evidentiary characters. Ultimately, this is more a social than a technological problem, one that must be met with compassion⁴⁸ and a thorough understanding of users’ tendencies and desires.⁴⁹

Methodology

We collected our responses for this study using an online survey distributed via listservs and emails. After our initial emails, the survey took on a life of its own as several respondents forwarded it, and at least one writer posted it on a widely read blog. We initially envisioned our survey as geared solely toward emerging writers with one or two published books, but we extended our sample after a few weeks to include writers with more books, as well as to writers whose work appears in journals but not as yet in books or collections. We realized that the more respondents we had, the better; we could easily analyze our results later by using survey filters to limit our sample to specific subcategories of accomplishment.

The 28-question survey included multiple-choice, yes/no, and open-ended questions. In addition, many of the questions permitted the writers to comment or elaborate on their answers, so that we received over 60 pages of single-spaced writing in response. These elaborations and comments helped us better understand the particulars of each writer’s archival practice.

The online survey remained open for 4 weeks, from mid-January to mid-February of 2011. Participation was anonymous and voluntary, with the only required answers being the consent to participate in the survey and identification of primary and tangential genres.

After the survey was completed, we analyzed the results using the statistical, formatting, cross-tabbing, and filtering features of our online survey provider,

⁴⁸ Christopher Prom, “iKive: Towards a Trusted Digital Personal Archives Service” (paper presented at the Personal Digital Archiving conference, San Francisco, Calif., 23 February 2012).

⁴⁹ Marshall, “Challenges and Opportunities for Personal Digital Archiving,” 110–11.

SurveyMonkey.com. We then analyzed the large number of responses to open-ended questions and, where appropriate, separated and categorized these responses to elucidate better the answers given for specific questions. This filtering was particularly helpful in our better understanding of the different ways writers work between paper and digital formats, as the open-ended answers we received described archival activities that are more various and nuanced than a multiple-choice survey answer could capture.

Survey Results

Respondents

We received 118 survey responses, 8 of which were less than 50% completed, leaving us with a total of 110 respondents. Of these respondents, 82 (74.5%) work primarily in poetry, 18 (16.4%) in fiction, 9 (8.2%) in nonfiction, and 1 (.9%) in drama (see Figure 1). Since we are practicing poets, our respondents' bias toward poetry was neither surprising nor, we would argue, detrimental, as poets are likely to have, due to the brevity of their pieces, more files. Although this does not mean they will therefore have more complicated personal archives than those writers who work primarily in drama, fiction, or nonfiction, it does mean, especially when considering younger writers, they will have likely produced, even early in their careers, a digital archives large enough to present some organizational challenges.

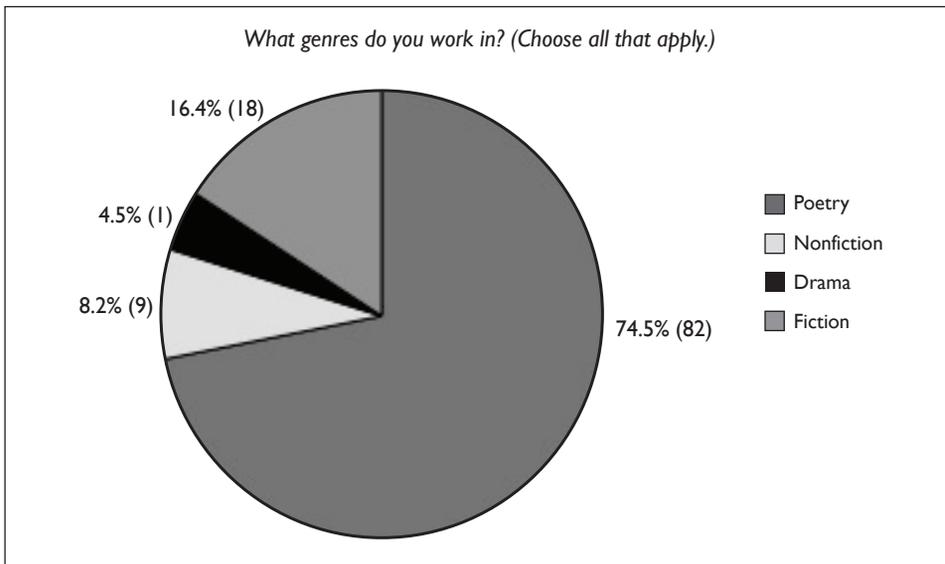


FIGURE 1. Primary genres of survey respondents

Many of the respondents, however, work in more than one genre; for example, of the 82 respondents who claimed poetry as their primary genre, 25.6% (21) also work in fiction, 45.1% (37) in nonfiction, and 2.4% (2) in drama. Moreover, when the data from the survey was cross-tabulated by the respondents' primary writing genre, the differences between the various types of writers were never statistically significant.

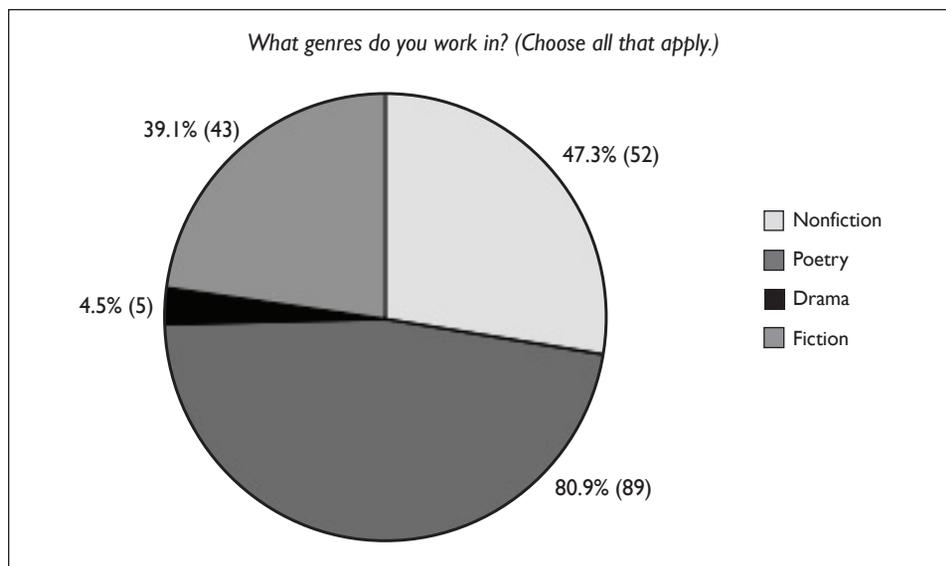


FIGURE 2. Range of genres of survey respondents

Our respondents' publication histories diverged greatly, with 22.9% (25) having published no major works, and 21.1% (23) having published 4 or more. Most of those taking the survey, 77.1% (84), had published at least one major work, with the largest individual portion of our sample, 30.3% (33), having published only 1, and 55.9% (61) having published 1 to 3. So the majority of our sample fit firmly in the (admittedly abstract) category of "emerging writer," although overall the sample represented nascent, emerging, and established writers.

Devices, Paper and Otherwise

The majority of our respondents, 70.9% (78), have access to 2 or more devices for writing. Of these, 90.9% (100) of our respondents use a laptop, 50% (55) a desktop, and 29.1% (32) a Smartphone, tablet, or PDA. The reasons given for working on multiple devices in the open-ended answers often pointed

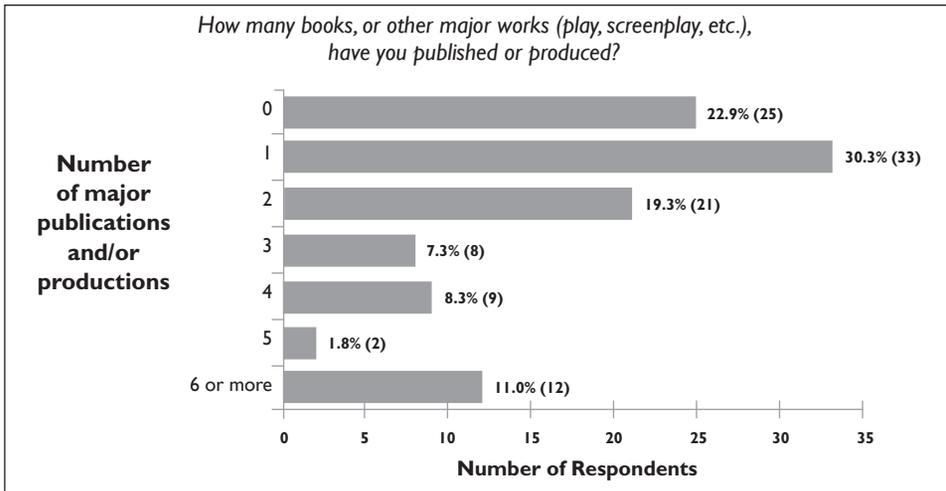


FIGURE 3. Number of respondents' major publications

to the respondents' use of alternate devices for travel or work purposes, with several noting that they share devices with their spouses. Many respondents also wrote that they use "paper" as a device, which, although it seemed somewhat comical at first given the digital focus of our research, eventually came across as an important aspect of our survey.

Notebook writing and other paper-based practices are central to many of our writers' prewriting practices; as well, a majority also print out copies of their work and make edits by hand on the print-outs. Sixty-five (66.3%) respondents save their prewriting/notes on paper, 69.2% (45) of whom save this writing in notebooks. Notebooks, interestingly, seem one of the more easily saved pieces of writing. One respondent noted, "If they're in notebooks, I save them; if they're on scrap paper, I don't." Another said,

[I] used to play around in bound, blank journals, and those I still have. Almost anything on loose paper, or pads, is usually tossed as soon as I've got it on the computer. I regret this, though. Now that my recent novel is being published, I wish I had my earliest handwritten scribbles.

Many respondents noted that they save their notebooks in drawers or on shelves (and in one case, in laundry baskets), and some keep an extensive trove of them: "Notebooks are dated and kept. I have probably around four or five thousand pages of [notebooks]."

Interestingly but perhaps not surprisingly, most respondents save their digital notes in a way that emulates how they save paper-based notes. One respondent noted she saves her prewriting "in two folders: one digital, one in a

drawer.” Many of the respondents also use a software program called Scrivener,⁵⁰ which allows users to save notes, drafts, and other writings in one central location. Some respondents noted they use Scrivener because its functionalities resemble their paper-based archiving strategies. These trends speak to the way writers’ digital archiving practices grow out of their paper-based practices.

Nondigital to Digital and Back Again

All this paper usage makes one wonder what percentage of their work writers do digitally. We asked our survey respondents to comment on this (see Figure 4), and we found that the majority of our respondents write primarily in digital format, with 8.2% (9) using digital formats only, and 58.2% (64) using digital formats primarily. A significant percentage of respondents, 7.3% (8), nevertheless work primarily on paper, while another 28.2% (31) work about equally in digital and nondigital formats.

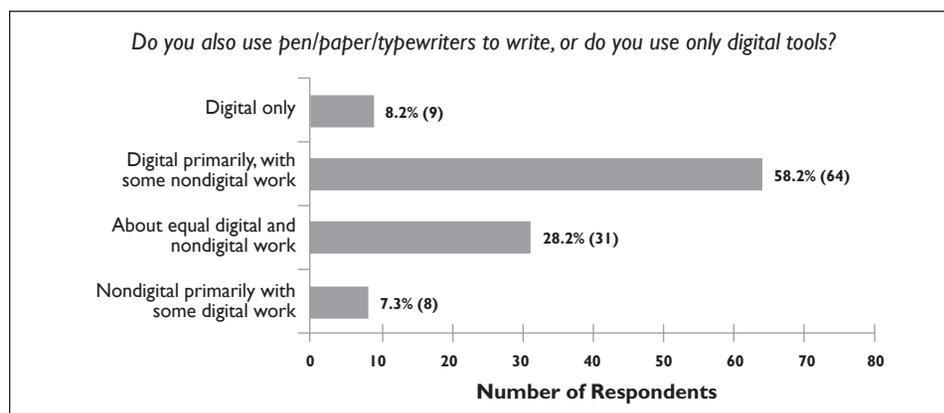


FIGURE 4. Respondents’ digital versus nondigital composition

When we looked at the open-ended responses to our question regarding digital versus nondigital work, however, we found an even more nuanced sample (see Figure 5), with the majority of the open-ended respondents, 34.3% (23), claiming they do some drafting on paper but then move to digital.

The relationship between writers working in digital versus paper formats appears to be quite varied, but one thing we took from answers to this and other questions is that although paper-based prewriting and note-taking are important

⁵⁰ Scrivener is text-editing software produced by Literature and Latte, a company that “was founded in 2006 with the sole purpose of creating software that aids in the creative process of writing long texts,” <http://www.literatureandlatte.com/about.php>, accessed 15 September 2011.

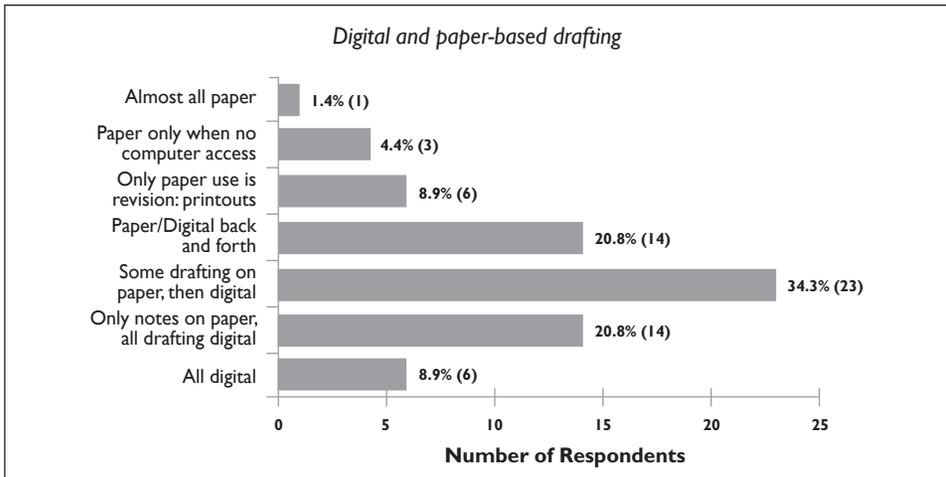


FIGURE 5. Respondents' digital versus nondigital composition—expanded

to many writers, the moments of transfer between paper and digital formats are foundational aspects of our respondents' writing practices. One respondent noted,

There is something about seeing the work printed out that helps in the final revision process—in part, because I can write on the draft in pencil. It's a bit mysterious really, but something changes when it's printed out that is vital in terms of revision.

The moment a writer prints out a piece of writing to revise it by hand—76.7% (79) do this—is an important editorial moment in the life of that piece, as is the moment a writer types up a draft of something handwritten on paper and the moment when those handwritten edits are re-entered into the computer. However, only a few more than 50% (58.7%, or 61) of respondents actually save interim paper copies of their drafts. This number may not seem worrisome, but when considered with the number of writers who claim to “save-over” their drafts—52.9% (54)—the material loss these answers imply seems considerable.

Saving-Over

Upon examining writers' elaborations on our “title” question, “Do you save drafts of your individual works as you go along, or do you simply save-over what you've already written?,” a different—indeed, almost opposite—and perhaps more worrisome problem starts to emerge: the proliferation of versions of individual pieces of work throughout a writer's file systems. If we were to assess only our survey respondents' answers to the multiple-choice form of this question, version proliferation would not seem a problem at all, as 52.9% (54)

of respondents claimed to save-over their files. However, after examining the open-ended responses more closely, we found that only 14.2% (8) of open-ended respondents admitted to never saving their drafts, and thus could be considered consistent “save-overers.” The rest of our respondents may save-over files in some cases, but they do save some draft versions, albeit in various ways ranging from saving all drafts in a single file, 8.9% (5), to only saving printed drafts, also 8.9% (5).

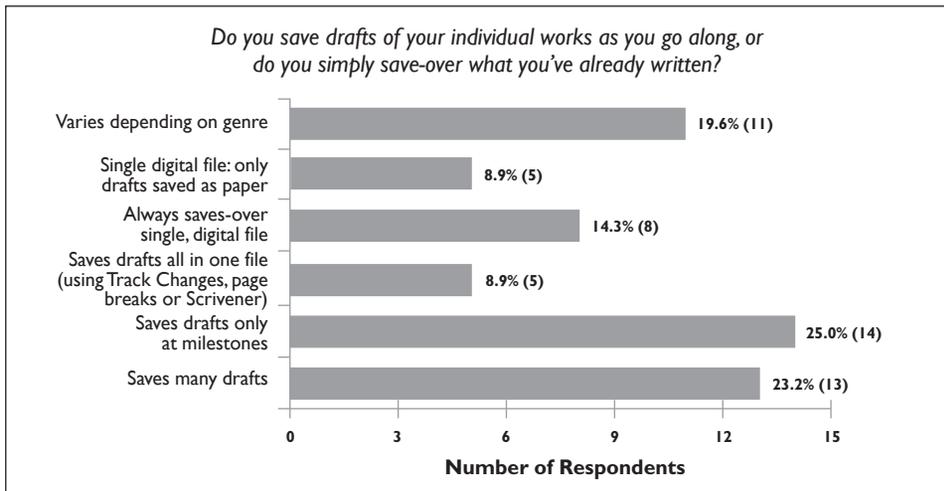


FIGURE 6. Saving drafts or saving-over? Analysis of respondents' open-ended answers/comments

Regarding version proliferation, these numbers themselves become cause for concern, as 23% (13) claimed to save many drafts, and an even more scattered picture emerges when we look at writers' naming conventions for their files. When asked, in an open-ended question, what their naming conventions are, respondents often noted sentiments similar to the following:

My naming conventions are a mess. [I] name things with a new title, then the same title with successive draft numbers (Thing 1, Thing 2), and sometimes just numbers or letters for drafts contained in a folder bearing the poem's name.

Nothing that organized.

God, if only I could answer this.

Our respondents' naming conventions reflect the spontaneous and amorphous nature of the writing process itself, in that the titles of digital files often fail to match up with the titles of the works they contain because the title is added later, or because of Microsoft Word's convention of picking up the first words of a

document for the digital file name. When the digital files do use the titles of the works they contain, added information in the titles betrays the uncertainty of the works' finality, with version and numbering systems often seeming a bit out of control:

I've certainly done title_final.doc, title_final2.doc, title_final3.doc, title_final_formatted.doc, etc.

All over the board. I formalized naming somewhat while working on my thesis, just to avoid going crazy, but other than that, I'm pretty sure it changes. I think I often tack "FINAL" onto the end of a name when I think I'm done, or at least done for the time being. But I'll also do "semi-final" or "2" or give it some cutesy temporary title as I go along. I'm way more organized at work, because I have to be—I definitely follow rules there, but not with my own writing.

The latter example is typical of a sentiment that ran throughout the survey, namely that the saving, back up, and naming conventions respondents use at work are often more structured and rule-based than the conventions they use for their personal writing files.

The proliferation of drafts reflecting various states of completion and various levels of accurate information is troubling, but should be expected given how writers' digital archiving processes are developed. When asked how they came about their archiving practices, 83.5% (81) of respondents explained in an open-ended response that their archival practices "just developed," or something similar, with many saying their archival practices developed "through" their writing. Sixteen (16.5%) noted that they did have some instruction, but of these respondents, several said they are professional archivists or librarians, or are married to professional archivists or librarians.

Surprisingly, many of the information management professionals who took this survey noted that their personal practices are nowhere near their professional practices. For example, one respondent noted: "I am actually a librarian, which you wouldn't really know based on my archiving practices." Another admitted:

This question is funny to me as I am a professional archivist. I think it's clear from my previous answers that I have little in the way of "saving conventions" when it comes to my own work. It's sort of pathetic, really. I don't really apply much of anything I know from working in archives to the saving and storage of my work. Once a computer or hard drive fails, I feel dejected for a bit but then move on.

When even professional librarians and archivists do not follow best practices for their own writing, what chance do we have that those with no training or experience with digital archiving will save, name, organize, and back up their files in such a way as to prevent loss of materials and facilitate easy location of files later?

Most of our respondents in fact had no instruction or information on best practices for digital archiving. When asked if they had ever received or sought out information about digital archiving, 80.8% (84) responded negatively. When asked, on the other hand, how many would be interested in receiving this type of instruction, 78.8% (82) said they would. So, although most writers develop their archival strategies on their own, and often through their own writing practices, they do not feel that their practices are so idiosyncratic or important to their processes that they would not welcome some instruction. On the other hand, most also had never felt a need great enough to even look up what the best practices are for archiving their digital files.⁵¹

Looking at the idiosyncratic, uninformed nature of their archival practices alongside the number of devices writers already admitted to working on—2 on average but up to 6, as recounted earlier—and then considering the digital archiving techniques writers do employ for their work, archivists or special collection librarians may begin to worry about the work they will have to do to sift through future digital collections.

Over-Saving

The good news is that, despite their lack of formal training or knowledge, writers *are* backing up their files, and they are doing so conscientiously, if not always correctly. Only 3.2% (3) of respondents admitted to “never” backing up their files, whereas 73.6% (70) of respondents back up their files at least monthly.

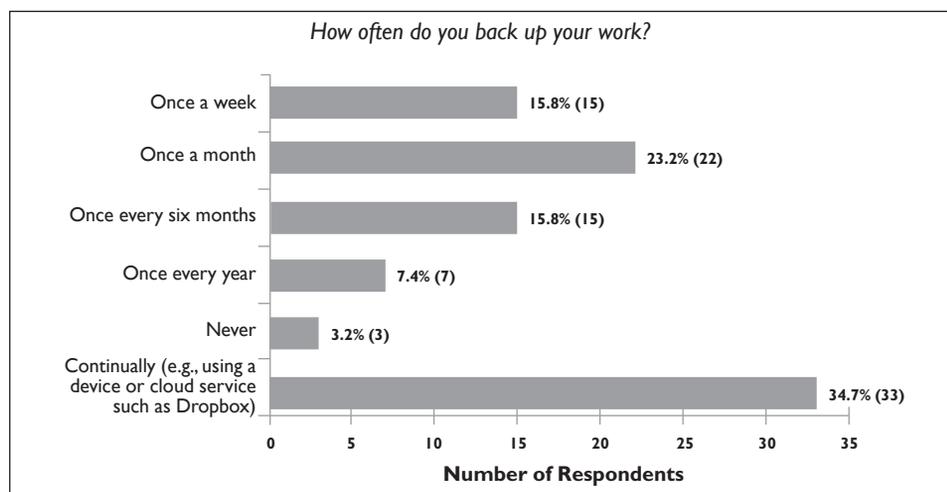


FIGURE 7. Frequency of respondents' file backups

⁵¹ Not that they would find much, given that a basic Google search elicits few answers.

However, when asked where they back up their work, 28.4% (29) of respondents mentioned that one of their archival strategies is to save their files in another folder on the same computer. Many also mentioned that their computers contain a plethora of versions because of backing up and transferring materials from former computers or former external storage devices.

Writers often base their archival strategies on what even they realize is a somewhat dated understanding of digital files. Since, as we have seen, many writers learned their archival strategies on their own, the fear of losing files plays a large role in teaching them how to take care of their digital files:

My process seems to have changed as technology changed. . . . Now since everything is so connected, it's much more scattered. Always pressed for time and less scared about "losing" work. Actually that's a good point. For 5 years in the 90s, losing your work was a real and ever-looming threat because computers crashed and disks were broken. That's not the case anymore.

Formerly, the loss of files due to computer crashes or other software- or hardware-related travesties was a real and ever-present concern, which led many writers to back up their files (understandably) in multiple locations, via several different strategies. Even as the loss of digital files due to hard-drive failure or file format obsolescence has become a much smaller threat,⁵² these preventative archival techniques persist today, as is evident from the answer to the question: "Where do you back up your work?"

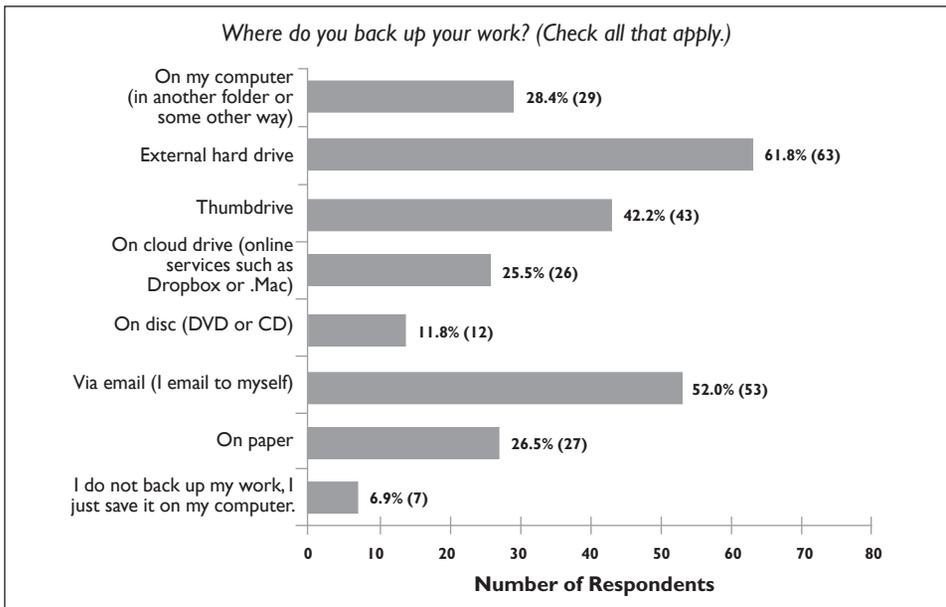


FIGURE 8. Respondents' locations for backup files

⁵² See David Rosenthal, "Format Obsolescence: Assessing the Threat and the Defenses," *Library Hi Tech* 28 (2010): 195–210.

Writers have a variety of techniques for saving their files; in itself this is a good sign and works against loss of files due to hard-drive failure.⁵³ But when considered with a later question—“How do you keep track of files saved in more than one location?”—the problem comes into relief. Of the respondents who answered this question, 31.1% (23) noted specifically that they do not keep track of versions saved in more than one location. These types of responses were common:

Therein lies the problem . . .

Who knows! That’s the thing about digital archiving—it’s so easy to keep saving new versions, and there’s no storage issue to speak of, so I never go back and clean things out.

Adding to these common admissions, many of those who claimed they do track the different versions of their files said they do so by relying on memory and/or their computers’ desktop searching capabilities. Although most noted that these techniques are not ideal for finding work, several noted that this process itself sometimes leads to discovery of drafts they have forgotten:

I generally have an idea of where something is, but I don’t have a centralized system, so sometimes I end up searching. I like this process though because I invariably find something in the process I also end up working on.

Despite the unexpected benefits, however, one must wonder: if writers have difficulty finding and keeping track of their own digital files, what chance will future scholars have to sift and decipher the plethora of versions for different files? And what chance do these files have of surviving the many new computers and operating systems their owners will no doubt possess and use over their lifetimes?

Some writers seem to have learned the problems with this type of filing system already: “I only ever have one digital file of any individual poem. I learned the hard way.” Or they at least see some of the dangers:

⁵³ This is not to say that file format obsolescence is not a real danger for writers’ digital files. It is, even considering the conclusion of David Rosenthal’s paper. We do not disagree with what Rosenthal says, but we reiterate that many writers’ archives consist of outdated file formats, and their digital skills are similarly mired in the past. Thus, some of these dangers still apply to them. Indeed, many of our respondents noted that they had lost files due to this problem, one mentioning that he/she had lost an entire MFA thesis to PageMaker. However, as Rosenthal notes, format obsolescence is a much less dangerous problem than it used to be (as are hard-drive crashes), and if any of these writers’ works do become well regarded enough that their digital files may be collected, one assumes recovery methods for obsolete file formats will be in place (as they are now, for many formats) so that these works can be recovered in some form. The important thing to emphasize to writers in this regard is to continue to save those formats that they might not be able to access on their current computers, as more technically advanced departments or individuals may be able to recover the information in those files. This is one of the best recommendations made by archivists and librarians at Yale’s Beinecke Library in their excellent online resource, “Authors’ Guidelines for Preserving Digital Archives,” Poetry at Beinecke Library, <http://beineckepoetry.library.yale.edu/digital-preservation/>, accessed 10 March 2012.

I guess the concern . . . is that the digital age carries such swift and terrible dangers. Paper ms LOOK different; they've been scrawled upon and wrinkled and pizza-stained, and it frankly takes some effort to accidentally misidentify a stack of hard copy. Electronic files all look alike. A note about my Dad's birthday looks the same as the prime file for my novel, and we've all known the feeling of disbelief in realizing we have somehow trashed the wrong file.

What our survey demonstrated to us, and in fact to the writers themselves, is that a majority of them do not have a standardized way of dealing with their digital files. When asked, toward the end of the survey, if they had any "standard archiving practices," 86.1% (87) of our respondents noted that they do not.⁵⁴

Some writers will never develop this type of system (nor would they want to), but many do seem to have experienced enough frustration with digital files to want some instruction on how best to save, store, back up, and name them. The question then is: how can instruction and guidance be given to writers on the archiving and organizing of their files in such a way as not to impinge upon their own creative processes?

Discussion

Benign Neglect, Value, and the Writing Process

First, we must address what seems the most surprising finding of our survey, that writers do not greatly value their digital files. This is a hard claim to believe, so let's take a step back into the literature to flesh out the reasons for this conclusion.

Marshall et al. argue that value is central to the ways, means, and motivations for personal digital archiving and that, as such, the contradictory nature of the practice of benign neglect "speaks volumes about value."⁵⁵ The authors argue that, although difficult to express or predict, the value of a digital belonging (or any belonging really) is demonstrated most readily by how it is treated; whether any special (archival) treatment is given to the file after it is created. They then conclude that the measurement of value versus the powerful force of benign neglect is central to "the equation of what gets archived and how."⁵⁶

Marshall's and others' works look at all the files consumers produce, download, and so on, necessarily including files that most would assign very little value. Writers' files, on the other hand, would seem to be quite valuable to

⁵⁴ One response to this question was "Ha, nope!"

⁵⁵ Marshall et al., "The Long Term Fate," 28.

⁵⁶ Marshall et al., "The Long Term Fate," 28.

writers themselves, personally and professionally.⁵⁷ So, one would assume, given Marshall's argument that the treatment of a digital file demonstrates its value, that writers would demonstrate more care for their work than the average consumer provides for digital snapshots, downloaded pdfs, or design projects. This, however, is not the case.

Marshall nods to the possibility of this discrepancy when she discusses how files are often at the whim of "*the exigencies of the moment*" [emphasis in original], but she never fully explores the fact that the creative processes by which these digital files are produced may not be compatible with the procedural processes recommended for digital archiving.⁵⁸ If a creator is concerned with how and where the file will end up, he or she will focus much less on what that file is becoming. Most writers are more concerned with their products than with the long-term survival of those products and so will neglect the files' naming, organization, and so on in service to the work's quality.

So, one is tempted to declare that the poor archiving of these files is not evidence that they are less valuable to a writer; rather, the files' mistreatment is merely the result of "exigencies" of the creative process. But the answers provided on our survey show otherwise, as their content, tone, and tenor demonstrate that the coherence and preservation of their digital files and folders are not high priorities for these writers.

There may be several ontological reasons for writers' lack of regard in this matter. Perhaps the ephemeral nature of the files means that there can be no real sensual relationship with them, leading to a lack of "feeling" for files, which can be dangerous in several different ways.⁵⁹ A file's infinitely replicable nature may also lessen how novel and/or authentic it feels. These files are "recordings" in many senses of the word, but unlike musicians, few writers make "masters" of their work, and the lack of such a practice seems to create situations in which no files have primacy of place relative to others and thus accumulate neither the emotional nor the capital value master recordings have for musicians and their record companies.

Overall, however, when considering the question of how much value writers assign their digital files, one must look beyond writers' treatment of their files to the lack of understanding and education they have in their organization, management, and archiving. As noted above, over 85% of our respondents admitted to having no standard archival practice, and about 80% of our respondents also said they would welcome some archival instruction and education. So, the issue may not be that writers value digital copies less than

⁵⁷ Further, if the writers were to become critically renowned, these files would also be of value to special collections and archives departments.

⁵⁸ Marshall, "Rethinking Personal Digital Archiving Part 1," 11.

⁵⁹ See the last quote from the survey above.

physical copies, but that their lack of digital archiving instruction and understanding, generally, leads to a helpless—"fatalistic" in Marshall's terms—and disengaged attitude toward their personal archives.

Pinpointing the reasons why writers assign little value to their files does not, however, make those files any more valuable to them in the present. And so it seems, as of 2012, that the digital archives of a writer is currently of less value, both to the writer and to the department or collector that receives it, than a physical archives of boxes, folders, file cabinets, and/or other receptacles that writers might donate and/or sell to libraries or collectors. This trend will of course change as more archival departments develop the tools and proficiencies to deal with personal digital collections, and in all likelihood, future collectors and writers, as well as scholars, archivists, and librarians, will find the digital archives of certain individuals as or more valuable than their physical archives.⁶⁰ How this change in actual value will alter writers' own value assessments of their digital archives and their digital archiving practices is a matter for future study, but for now, according to the literature and our own study, writers do assign too little value to their personal digital archives and this presents a danger to the survival and coherence of important scholarly materials in the future.

Much Ado about Nothing, or A Clear and Present Danger

The question of value also leads us to some general questions about our study's importance. Few writers' major works, let alone their papers or drafts, receive continued attention into the future, so it may seem to some unnecessary to worry or study current writers' digital archival practices. Much of the concern voiced in this paper may even be met with incredulity: *surely the loss of a few files due to a writer's saving-over one file with another, or some archivist's future difficulties in determining the provenance and version number of a certain obscure poem, will not seriously lessen the value or coverage of our archival holdings*. Further, some may believe that by the time digital files are routinely collected by archivists, fuzzy hashing and other digital forensic techniques will likely be developed and implemented to such a degree as to make these concerns moot.⁶¹

We hope this is the case and that the digital materials that writers donate to archives and special collections will be easily organized and accessed when these

⁶⁰ See Patricia Cohen, "Fending Off Digital Decay, Bit by Bit," *New York Times*, 15 March 2010, <http://www.nytimes.com/2010/03/16/books/16archive.html>, accessed 28 August 2011. Indeed, we believe this trend is already beginning, as larger institutions around the world are collecting the digital archives of writers. The increased and interactive access given to Salman Rushdie's collection at Emory University—a patron is allowed to view and even edit Rushdie's files in the context (programs, operating systems) in which they were created—can only increase our understanding and curiosity about the ways authors produce their digital files.

⁶¹ Marshall, "Rethinking Personal Digital Archiving Part 1," 1, 6.

processes are applied. However, the farsightedness of this future vision may be shortsighted in actuality, as writers are having difficulties managing their files now, today. Combine this difficulty with the fatalistic attitudes research subjects in our study and Marshall's studies demonstrate toward their digital files, and one must admit that a large amount of important material may already have been and will continue to be lost.

Fatalistic approaches toward the archiving of digital files are especially dangerous now because they ignore important aspects of the organization and archiving of today's digital files. First, the typical user has not been organizing and archiving digital files for much time, relatively speaking. Second, digital files have not been around long enough for most writers to know precisely what techniques will best preserve them for the long term. Third, much of the organizational and archival techniques with which writers and archivists are most familiar are based on paper—a medium that allows for less preservation-centered maintenance and attention than do digital files—and these techniques are ill equipped, as we see in our survey, for maintaining coherence in digital environments.

The relative inexperience of users with the organization and archiving of digital files combined with an inherent reliance on paper-based archival methods puts writers like our respondents at risk of losing important archival material. This loss of material, moreover, is occurring at a time when the cost of obtaining and maintaining digital space for archival content is decreasing at a rapid pace, and we are seeing how beneficial large data troves—often known as Big Data—can be to scholarly endeavors. Though the tools and storage spaces, as the AIMS Project discovered, are not at the level they need to be to make huge collections of archival digital content mineable in the way huge datasets now are, the era of Big Archives cannot be so far beyond us. These factors suggest that archives generally, and the number of writers' archives specifically, will grow significantly in the coming years, which behooves us digital archivists and other information professionals to educate our publics as best we can to ensure these materials survive in at least a minimally coherent fashion.

Recommendations

Writers' digital writing practices, and therefore their digital archival practices, are partly to blame for the lack of great value they assign to their files, but writers' benign neglect of their files—and, we would claim, a substantial part of the reason writers' attitudes toward the archiving of their files seems flippant—is based more on basic ignorance than on creative necessity. Consequently, our survey demonstrates that some digital archival instruction for writers is both needed and wanted.

As our survey respondents can attest, however, most writers (and most general users it seems as well) do not go out of their way to seek advice on digital archiving. Archivists would thus best serve themselves, writers, and future archivists and scholars if they would make an effort to contact and advise writers now, whether they be writers connected to their institutions (both students and faculty), writers they know personally, and/or writers they might one day collect, about best practices for the maintenance and archiving of their digital files.

In giving these instructions one must, however, take care not to recommend archival practices that become suffocating to the work itself. For, as one of our respondents noted,

[U]ltimately [my] archiving practices are in place (currently) to help foster new work rather than to keep a record of the process of the old work. That is, the process of the old work is only worth keeping (for me) because it might lead to new work at some point, not because it is inherently interesting.

This seems a common sentiment among our survey respondents, as well as some of the writers we read about in our literature review.⁶² The sentiment is also mentioned by authors Christopher Lee and Robert Capra, who argue that that foundational archival principle, original order, remains integral to the archiving of digital and born-digital content.⁶³ Consequently, we believe the advice archivists give writers regarding their files and procedures should be as simple as possible. With that in mind, we developed some basic recommendations for writers, provided in a 4-step format.

These recommendations are meant to stave off what we believe to be the most pressing problem for writers' archives: the unchecked, unsystematic proliferation of digital files. They are also meant to be easy to follow and minimally invasive. The first step should be the most chorelike and time consuming, but once completed, a writer should be able to simply drag and drop his or her files on a regular basis and create a yearly archival folder in relatively little time.

Step 1: Gather all your most complete and/or recent writing and writing-related files together in one folder and organize them however you see fit, perhaps by additional folders for each

⁶² Kirschenbaum et al., *Approaches to Managing and Collecting Born-Digital Literary Materials for Scholarly Use*, 18–19. Kirschenbaum and his collaborators met with several well-known novelists and poets who mentioned they were wary of adapting overbearing archival practices. Donadio, "Literary Letters, Lost in Cyberspace," 2. And in the same *New York Times* piece in which Zadie Smith professed her fatalism toward digital files, Jonathan Franzen warns of the "self-suffocation" writers might experience if they were made to think too much about their own archival practices and the future receptions of their work while they are trying to write the pieces they hope may someday make them famous.

⁶³ Lee and Capra, "And Now the Twain Shall Meet," 39. "One compelling argument for retaining original order in a digital environment is that, even if that order is messy and idiosyncratic, it conveys meaningful information about the recordkeeping context, and additional layers of description can be laid on top of that order to facilitate various forms of navigation and access."

project, by folders according to year, by folders according to status (i.e., drafts, notes, old, finished, etc.), or by some combination of these. Name this folder “Master-Archives.” Place the “Master-Archives” folder on your desktop or in your documents folder.

- Step 2:** If you are not signed up for one of the online syncing and back-up services such as Dropbox,⁶⁴ Carbonite,⁶⁵ or Mozy,⁶⁶ do so, and install its program on your computer, which should provide you with a folder on your personal hard drive that automatically syncs to an online server.⁶⁷ Copy your “Master-Archives” folder and paste it into the synced folder. Rename the “Master-Archives” folder in your synced folder, “Master-Working.” From that point on, only save documents you are drafting or working on in your “Master-Working” folder.
- Step 3:** Every 4 months, replace the contents of your “Master-Archives” folder with the newer contents in the “Master-Working” folder. You can do this by dragging the contents from your “Master-Working” to your “Master-Archives” folder.
- Step 4:** Every year (so every third time you go to replace the contents), make a copy of your “Master-Archives” folder, add a year to the folder’s title, and store it in another location on your hard drive AND on an external hard drive⁶⁸ that you keep somewhere different than your computer (at work, maybe, or in a safe at your house if you have one).
- Ongoing:** Repeat steps 3 and 4 on an ongoing basis, continuing to use the 2 folders to compose and archive. Adjust the time frames to suit your own needs, but try to update the archives and your external hard drive at least once a year.

By following our recommendations, a writer should be able to create an archives that traces both his or her own work’s trajectory as well as the trajectory of his or her organizational and compositional practices, as each year’s archives will likely change in structure as the writer’s compositional and storage practices evolve. We realize that technological changes might make some of these practices seem quaint in the future, but having master folders (or simply having

⁶⁴ Dropbox, <http://www.dropbox.com>, accessed 10 March 2012.

⁶⁵ Carbonite, <http://www.carbonite.com/en/>, accessed 10 March 2012.

⁶⁶ Mozy, <http://mozy.com/>, accessed 10 March 2012.

⁶⁷ This should provide writers with a folder on their computers that automatically syncs to the online servers of these companies.

⁶⁸ While online storage continues to drop in price and increase in space, storing one’s files on one’s own hardware is good practice for writers, as they are less likely to accidentally delete these files and these files are less likely to be compromised by an outside entity.

a thought-out plan, whatever that may be) in any future digital environment seems a necessary and needed improvement to most writers' digital archiving practices, one that should help them feel more in control of their own files and archives.⁶⁹

Our recommendations for archivists are simply to inform writers of the 4-step process above, and then, if they feel a writer or community of writers might benefit, suggest some other sound practices for saving and managing digital files, such as file format and naming advice, with the caveat that they should not be followed if found to be cumbersome.⁷⁰ We recommend that any additional advice stress the importance of being consistent in their archival practices—consistent file and folder naming and organization, regularly scheduled backups to consistent locations—and not propose specific naming conventions or organizational schema.

We think this broad and simple approach will best assist writers in their current work with their own digital files and best enable future scholars and archivists to access and understand those files that may one day be deposited in their archives.

Conclusion

The real danger regarding writers' personal digital archiving practices is the unchecked, unsystematic proliferation of digital files across various storage and access locations, as this proliferation and the lack of digital and archival instruction that propels it has already and will continue to lead to the loss of important archival material. Archivists should therefore contact and instruct writers in effective digital archiving practices because 1) these actions will save archivists and scholars a great deal of time and consternation in the future; 2) these interactions will help alleviate some writers' fear, ignorance, and/or anxiety when it comes to proper maintenance of their digital files; and 3) the materials that writers might save by doing so will likely become, due to increased digital storage space and better digital archival tools for analysis and mining, increasingly valuable to archives, archivists, and society at large.

Archivists and librarians should be careful in their recommendations not to overburden writers with digital preservation concerns and thereby alter processes already well established in the creation of work. But, as our survey

⁶⁹ This alone will likely help shore up writers' suspect practices and devalued sense of their digital archives, which is a worthy goal in itself.

⁷⁰ When encountering writers willing to explore their archival practices a little further, we also suggest that one advises a writer to compose, update, and archive an "ArchiveDescription.txt" file in their "Master-Archives" folder that describes the organization and development of their archives. This might be couched as being a helpful writing exercise generally, one through which a writer can reflect on his or her historical and current organizational practices.

found, a large majority of writers would appreciate some gentle instruction. The challenge for archivists and librarians is that writers will not likely come to them for instruction; the Library of Congress's digital preservation week is not an event most writers have on their calendars. Rather, digital curation professionals need to approach writers through the blogs, twitter feeds, literature, and listservs to which they are most likely to pay attention and via the relationships they already have with colleagues and faculty on their campuses and at their institutions.

Appendix A: Digital Archiving Survey Sent to Writers, via SurveyMonkey

Section 1: How you compose

In this section, we ask what you write and what you use to write it.

1. What genres do you work in?
(Choose all that apply)
(Fiction, Poetry, Nonfiction, Other *please specify*)
2. What's your primary genre?
(Fiction, Poetry, Nonfiction, Other *please specify*)
3. What kinds of devices do you own or have access to for writing? (If you own one of the below devices but do not use it for any writing purposes, do not select it.)
(laptop, desktop, ipad or other tablet device, smartphone, PDA, Other *please specify*)
4. How many devices do you own or have access to for writing?
(1, 2, 3, 4, 5 or more)
5. What operating systems do you use on your devices?
(Choose all that apply)
(Windows, Mac OS, Linux, Android, Other *please specify*)
6. Do you work on one device primarily? If so, what is it? If not, how do you manage your files and drafts between devices? Please elaborate?
(Free text)
7. Do you also use pen/paper/typewriters to write, or do you use only digital tools?
(Digital Only, Digital primarily—with some non-digital work, About equal work digital and non-digital, Non-digital primarily—with some digital work)
(Please elaborate on your process)
(Free text)
8. If you do use non-digital tools, at what point do you go digital, (e.g., notes on paper, then first draft on computer) or do you go back and forth between digital and non-digital work?
(Free text)

Section 2: How you save

In this section, we ask you how you save your work.

1. How do you (or, do you) save your prewriting/notes?
(Free text)
2. In what format do you save your digital files?
(Microsoft Word files [.doc, or .docx], PDFs, Other text-based file such as rtf, Other)
If you marked other, please specify what file(s) you work in. Or elaborate as you see fit.
(Free text)
3. Do you save drafts of your individual works as you go along, or do you simply save-over what you've already written?
(I save drafts, I save-over my files)
Please elaborate, if you would.
(Free text)
4. What are your naming conventions for your files, notes, etc.? Example: thewasteland_1.doc, or thewastelandNEW.doc
(Free text)
5. Do you print out your writing to revise it?
(Yes, No)
Please elaborate, if you would.
(Free text)
6. Do you save any paper copies of interim drafts?
(Yes, No)
Please elaborate, if you would.
(Free text)

Section 3: How you back it up

In this section, we ask you how you back up and archive your work.

1. How often do you back up your work?
(Once a week, Once a month, Once every six months, Once every year, Never, Continually—e.g. using a device or a cloud service such as Dropbox, Other *please specify*)
2. Where do you back up your work?
Choose all that apply. Please elaborate on your process.
(thumbdrive, external hard drive, on my computer [in another folder or some other way], on cloud drive [online services such as dropbox or .Mac], on disc [DVD or CD], on paper, via email [I email files to myself], I do not back up my work, I just save it on my computer)
(Free text)

3. Do you use any cloud-based file systems such as Dropbox, or a .Mac account?
(Yes, No)
Please elaborate, if you would.
(Free text)
4. If you have files saved in more than one location, how do you keep track of them?
(Free text)
5. How do you save the work you're finished with (i.e., published poems)?
Examples: move finished work to FINISHED folder, print out copy and keep in file
(Free text)
6. Do you keep print copies of final drafts? How do you organize them?
(Free text)
7. How about the media you've been published in—do you keep copies of the print journals? Do you keep track of web publications in some way?
(Free text)
8. Do you have any standard archiving practices?
(Free text)

Section 4: Wrap-up

1. Have you ever received or sought out (e.g. read online) information about methods for digital archiving activities?
(Yes, No)
Comments?
(Free text)
2. Would you be interested in receiving information about recommended practices for digitally archiving your work?
(Yes, No)

Thank you for your time! We really appreciate you indulging our curiosity in this way. There is only one last (optional) question.

What did we miss? We know we are bound to miss important details about some writers' processes. Here is your chance to think back to what you've just written and note anything additional, antithetical, heretical or otherwise regarding these topics. You may also comment on the survey itself here, provide a narrative of your process (for those of you narratively inclined).

(Free text)