

I, Digital

Personal Collections in the Digital Era

Edited by Christopher A. Lee



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Introduction

Christopher A. Lee



...only if we better understand personal recordkeeping practices can we hope to do a better job at capturing and preserving those records for posterity.

—Adrian Cunningham, 1996

Many archivists and archival institutions have a collecting mission that includes personal papers, manuscripts, and other noninstitutional materials. Despite a massive increase in the volume and complexity of personal digital collections, the literature designed specifically to guide archivists' thinking about personal digital materials has long been limited to a few scattered journal articles and research project websites. *I Digital* aims to fill this gap. It explores issues, challenges and opportunities in the management of personal digital collections, focusing primarily on born-digital materials generated and kept by individuals, as opposed to electronic records that are generated within and managed by formal organizational recordkeeping systems. It represents a convergence and synthesis of literature and thinking about how cultural institutions can grapple with new forms of documentation and how individuals manage (and could potentially better manage) the digital information that is part of their contemporary lives. One of the book's main objectives is to expose the archival profession to an active body of highly relevant research that has traditionally been published outside of the archives literature and not typically represented at archives conferences. It also seeks to expose other audiences (e.g., those with an interest in personal

information management) to the principles, insights and activities of the archival profession.

An Obligatory Note on Terminology

I, Digital bridges discussions from a diverse set of cultures and disciplines. An endemic characteristic of such efforts is “creative tension” in the use of various terms. In cases when it is considered particularly important to do so, authors of the chapters often provide working definitions of specific terms. The most obvious divide is between the language of Personal Information Management (PIM) and Archives and Records Management (ARM); even these very labels are subject to dispute.

There is also a diversity of terms used within the literatures of the collecting professions (librarians, archivists, museum curators) over what to call the *set of traces* that are left behind by individuals as they engage in the activities of their lives. One distinction that has received considerable attention—particularly in the U.S. literature—is between institutional records (records whose primary use is related to documenting and supporting the activities of an organization) and “manuscripts” (materials whose primary use is related to the activities of an individual in his or her personal life). The British Library, for example, favors the term *eManuscripts* for digital materials created by individuals. The term *manuscript* carries specific mechanical connotations (being written by hand) that are often not strictly accurate. An alternative term, *personal papers*, is often used instead. However, a great deal of personal material is not actually captured or retained on paper, so this is also not ideal.

A phrase that one will frequently encounter in this volume is *personal archives*. It is important to note that Australian authors tend to use the term *archives* much more holistically than U.S. authors. In the Australian archival literature, archives are all records of “continuing value,” regardless of where they reside or who is currently caring for them.¹ By contrast, the North American archival literature tends to consider archives to be the places, collections or set of associated activities that reside on the receiving end of the “archival threshold.” From this perspective, many types of documentation can serve as “personal records,” but they are only personal archives when

they have been transferred to the care of professional archivists within a formally recognized repository.

Another commonly used phrase is *personal recordkeeping*. The term *recordkeeping* is usually used to include both activities that are often labeled *records management* and activities that are often labeled *archival administration*—i.e., recordkeeping encompasses care for records both within their creation environment and in any environments that are used to care for them thereafter. The scope of personal recordkeeping is very close to the stated scope of much writing about PIM, with the primary difference being the strong emphasis of the former on the *record* as the primary unit of analysis. A record is a subset of all information created by an entity (individual or organization) that has been designated as requiring a certain degree of coherence and integrity over time, in order to serve as evidence or documentation of something.

I have chosen to use the term *personal collection* within the title of this book, in an attempt to find the closest thing to neutral ground that might exist within this complex ecosystem of rich, sometimes complementary, but sometimes conflicting, terminology. Roughly speaking, a personal collection is a sizable aggregate of an individual's personal traces that he/she or someone else has identified and attempts to manage over time as a relatively coherent unit in order to reflect something important about that individual. This is certainly not a formal definition, nor is it even a working definition that is applied consistently throughout the book. Instead, it is simply a working notion of a common area of interest that has served as a point of intersection for writings by a very thoughtful set of authors who have contributed to this volume.

Trends Related to Personal Digital Collections

Historically, individuals and families have accumulated and managed personal collections. Most of these collections have been relatively small and have not left the homes of the collectors. Many of the materials have been lost due to the “hazards of time.”² However, collections of a few prominent individuals and families made the transition into collecting institutions. Many cultural institutions were initially seeded by personal collections of influential people.

Over the past half century, five trends have dramatically changed the nature and status of personal collections: professionalization; professional convergence around digital preservation; increased storage capacity available to individuals; distribution of collections; and research focusing on individual stories.

First, work within collecting institutions has become increasingly professionalized. This has included specialization, professional education, professional associations, conferences, journals, specialized language, and social norms. As work becomes more professionalized, there is more consensus about what types of activities fall within the scope of the profession and which do not. This is what Andrew Abbott has called the “jurisdiction” of a profession.³ Professionalization has dramatically raised the expectations for how institutions must care for and provide access to collections in order to be considered “professional” in their activities. For example, the archival literature reflects numerous widely held expectations about engagement with records creators, formal transfer agreements, standardized description, environmental controls, storage materials, access controls, reference services, and outreach; there is a diversity of views about appropriate approaches to implementation and degree of emphasis on the various expectations, but it would be very unusual for anyone in a professional forum to flatly dismiss their relevance to archivists.

Similarly, museum curators and librarians operate within their own sets of expectations about the scope and nature of their work. Setting a clear boundary around a set of professional activities is a powerful way to focus attention, mobilize resources, and establish sufficient coherence across the activities to get good things done. However, the boundary also increases the “transaction costs” for interacting with people and groups who are not part of the profession. The fragmentation of libraries, archives, and museums, for example, can inhibit those institutions from collectively responding to the challenges and opportunities of personal digital collections. A strong focus within the professional archival literature on methods and procedures within the context of formal repositories can also inhibit archivists from working with everyday citizens, genealogists, and various other types of amateur enthusiasts to collectively ensure that personal digital archives can be meaningfully and appropriately used in the future. In short, long-term care for personal digital collections faces the two sides of the professionalization

coin: focused development and progress within associated professions has spawned many valuable resources, concepts, and methods that could be mobilized to address personal digital collections; while these same developments make it difficult to mobilize across the professions. Collective efforts will require concerted boundary spanning, and *I, Digital* is one step (hopefully, among many) in that direction.

A second trend is that previously distinct communities have come to recognize that they share challenges associated with long-term care of digital resources. Digital objects are different from purely spatio-temporal objects in that they are recreated each time they are used, based on interactions of numerous technological components. In order to ensure meaningful access and use of digital objects over time, one must plan for and respond to changes to the technological components, the ways the components interact, user needs, and mechanisms for use. Digital preservation is a multilayered, complex endeavor. There has been increasing recognition—particularly since the mid-1990s—across both collecting institutions and other types of organizations responsible for stewardship of data over long periods, that many of the fundamental issues of digital preservation are shared across contexts and could be better served through communication across institutional and professional boundaries.⁴ In many ways, this trend has the potential to counterbalance the professional fragmentation issues discussed above.

A third important trend is that individuals have gained more ability to create and store materials that they find meaningful, useful, or simply more convenient to keep than to discard. In the developed world, a typical consumer can conveniently create a vast array of information artifacts that were previously much more difficult and expensive to produce, including text, images, moving images, audio, structured data, microcontent (e.g., tags, bookmarks), and many combinations thereof. Although computers regularly overwrite many types of data, the default computer behavior related to user-created files usually is to retain them until the user makes a conscious act to delete them. Various factors make it increasingly less likely for individuals to delete files that they have created, resulting in a proliferation of data in personal digital archives:

- Deleting takes time, attention, and a conscious commitment to the idea that something will definitely no longer be needed.

- The cost and size of the storage medium required to store a given number of bits has decreased dramatically every year and is likely to continue decreasing for the foreseeable future, which means that many individuals do not have to worry about running out of space.
- The number and types of storage media that an individual may have at his/her disposal (e.g., thumb drives, telephones, cameras, mobile phones, desktop computers, laptop computers, external drives, and disks) also continues to grow.
- Increasingly sophisticated technologies for both searching over and reusing digital data provide a strong case for keeping things “just in case” one might find them to be useful in the future.

A fourth, very closely related, trend is that personal collections have become more widely distributed than in the past. The issue of personal *fonds* being spread across multiple locations is certainly not new, but the magnitude of this phenomenon is. In addition to the various types of storage media discussed above, there has been a significant movement of many types of personal information into “cloud computing” environments.⁵ Whereas many organizations are entering formal arrangements in which they pay “cloud providers” to host their content, the services upon which individuals rely are often provided for “free.” Rather than providing direct financial payment, individuals usually pay by allowing the company access to their personal data, willingness to view advertisements, or both. Such arrangements rarely provide the individuals with much control over how their information will be managed or retained over time. Individuals often use different computing environments to carry out different tasks; this can be because of limitations of the technology (interoperability issues) or based on deliberate decisions of individuals (e.g., switching to email when a blog exchange has become too personal, maintaining different social media profiles for different social contexts, keeping some family photos in a shared online space while keeping others on a hard drive).

Finally, researchers have placed considerably more emphasis than they did several decades ago on the importance of personal stories, voices, and perspectives. Many fields of study in the social sciences and humanities now use personal accounts as sources of data and recognize aspects of personal subjectivity to be legitimate topics of research. Numerous schools

of thought in social theory, literary criticism, and historiography have also questioned positivist or “grand narrative” approaches, advocating instead for a focus on individual interpretations and perceptions. Social historians, feminist scholars, family historians, and genealogists all rely heavily on personal information traces (within archives or elsewhere) to answer their questions. This trend foregrounds the importance of personal digital collections and suggests many communities of interest that have a strong stake in appropriate treatment of personal digital information.

These five trends have a significant impact on the system of professions and professional activities related to personal digital collections.⁶ The trends greatly enable many new activities, but they can also impose serious constraints on collaboration and innovation. The chapters of *I, Digital* were written within this context.

Building on a Diffuse Literature

The chapters of *I, Digital* build on—and will hopefully contribute to—several different bodies of literature. Although it is impossible to completely disentangle them, I have found it useful to consider five associated areas of literature: the administration of personal papers and manuscript collections; electronic recordkeeping; digital data recovery and forensics; personal information management; and the design of tools for user-generated collections.

Administration of Personal Papers and Manuscript Collections

Libraries and archives have a long history of collecting personal papers and manuscripts. In the United States, there were numerous organizations (particularly historical societies) that focused on the care of both organizational records and manuscript materials long before the archival profession was formally professionalized. Ever since the formation of the National Archives and the Society of American Archivists in the 1930s, personal papers and manuscripts have been part of the archival profession’s charge, but their status has often been ambiguous. Several prominent authors have argued that the primary focus of the profession should be on official government records. Some have gone so far as to dismiss personal papers and manuscripts as not being true archival records and thus not

worthy of professional archival attention. Much ink has been spilled onto the pages of North American archival journals over the status of both non-institutional records and the “manuscripts tradition” more generally.⁷ The Australian archival literature has been characterized by a similar tension, addressed most explicitly in a special issue of *Archives and Manuscripts* in 1996 on “Personal Recordkeeping: Issues and Perspectives.”⁸

One consequence of the profession’s ambivalence is that practical guidance and empirical findings about the archival treatment of personal papers and manuscripts has tended to be underrepresented in the published professional literature. This has been particularly true in the last several decades, as notions of evidential value, recordkeeping systems, and institutional accountability have driven much of the research. Ironically, this has occurred at the same time that the boundary between personal and official recordkeeping systems has continued to blur. Given how much of records management is carried out by individuals “at the desktop,” and the extent to which personal and organizational materials are intermingled on those same desktops, all records professionals can benefit from a more informed view of personal information practices and principles. In 2006, Toby Burrows lamented, “Though the range of issues relating to personal electronic archives has been relatively well-documented, there is as yet little in the way of systematic investigation of solutions and approaches.”⁹ However, there are positive signs that this is changing.

A growing number of librarians and archivists have been gaining hands-on experience with personal digital collections. Several informative conference papers and publications have come out of this stream of activity, often in the form of case studies.¹⁰ Two important, very relevant projects have been Digital Lives and Personal Archives Accessible in Digital Media (Paradigm). The Digital Lives project aimed “to explore how individuals use, organise and manage their digital collections.”¹¹ The Paradigm project investigated “issues involved in preserving digital private papers through gaining practical experience in accessioning and ingesting digital private papers into digital repositories, and processing these in line with archival and digital preservation requirements.” The Paradigm project’s most visible product has been a “Workbook on Digital Private Papers.”¹² Another recent project generated a white paper based on a series of site visits and meetings of those working with the born-digital components of three significant literary

collections.¹³ In her book *Electronic Records in the Manuscript Repository*, Elizabeth Dow summarizes important considerations and discusses strategies for approaching collecting scenarios in which “the materials are in fact the donor’s so the curator works with them only as a consultant, armed with knowledge, but no actual power.”¹⁴ And in “Managing Electronic Records in Manuscript Collections,” Michael Forstram articulates the Beinecke Library’s approach to describing electronic records.¹⁵

Electronic Recordkeeping

The archival literature has given at least some attention to issues of computerization since the 1940s, and by the late 1970s and early 1980s the archival literature included many reports on the actual and potential use of computers to support the internal operations of archives. Numerous articles and reports have also called for members of the archival profession to revise their theories and practices, and take a more active role in addressing the management and preservation of digital objects. Despite these calls for action, active discussion of electronic records in the archives literature is still surprisingly young and under-developed.

The Society of American Archivists (SAA) made important, early contributions with the publication of proceedings of a 1979 conference about machine-readable records¹⁶ and *Archives and Manuscripts: Machine-Readable Records*.¹⁷ The Records and Archives Management Programme (RAMP) of the United Nations Educational, Scientific and Cultural Organization (UNESCO) also issued publications that advanced early thinking on electronic records.¹⁸ Several other important books about electronic records were introduced into the archives and records management literature in the 1990s,¹⁹ and SAA published a set of eight electronic records case studies in that decade.²⁰

The electronic records literature has grown considerably since the 1990s. There have been many books,²¹ as well as significant treatment in the serial publications of records management professional associations, including *Information Management* published by ARMA International. Professional archival journals have also included a substantial number of pieces that address electronic records,²² but the attention to personal digital collections in archival journals has been relatively limited.²³ Much of the recent attention to electronic records management literature has been driven by concerns about legal compliance, with the enactment of policies and mandates including

the U.S. Health Insurance Portability and Accountability Act (HIPAA) (1996), European Data Protection Directive (1998), Information Security Management, Code of Practice for Information Security Management (2000), U.S. Sarbanes-Oxley Act (2002), Basel II (2004), revised U.S. Federal Rules of Civil Procedure (2006), many prominent court cases, and the growth of a massive electronic evidence discovery industry.²⁴ Legal compliance has become a driving factor for electronic records management in many organizations, leading one author to conclude that all other organizational “considerations must yield to information’s role in litigation processes.”²⁵ Several initiatives have created guidance for record creators (within organizational contexts), including Managing the Digital University Desktop (MDUD)²⁶ and the Preservation of Electronic Mail Collaboration Initiative (EMCAP).²⁷

When the archival literature on electronic recordkeeping has directly addressed personal records, the discussion has usually focused on issues of professional jurisdiction²⁸ rather than elaborating specific principles or methods for dealing with personal electronic records. Frequent topics of discussion have been whether manuscript curators have been marginalized by the major electronic records projects of the 1990s, whether a definition of archival records as conveyors of evidence is inconsistent with the goals of manuscript curators, and whether an excessive focus on accountability diminishes the larger societal mission of archives as conveyors of social memory. As with so many professional issues, competing interpretations of fundamental terms are major sources of tension and confusion. It should be no surprise that an archivist responsible for manuscript collections would take issue with the statement that “archivists are in the evidence business” if she interprets “evidence” to mean solely “that which is admissible in a court of law.” Likewise, “archives are instruments of accountability” would also not sit well with her, if accountability is taken to mean only “ensuring that public officials appropriately discharge their legal duties.” The working reality of many archivists—who are often responsible for both institutional and non-institutional records—requires working definitions of core terms that are quite broad and multifaceted. Recordkeeping practices serve multiple interests, objectives, and “accountabilities”²⁹ along many dimensions at various levels simultaneously: legal, institutional, professional, ethical, cultural, social, historical, and personal.

Contemporary scholarship about electronic records has been strongly influenced by the continuum model of recordkeeping.³⁰ The archival literature on electronic records over the past several decades has placed a strong emphasis on understanding and engaging records creating environments, rather than waiting passively for records to eventually cross the archival threshold. One of the fundamental questions for the profession—and one that has received very little attention—is how to successfully apply continuum thinking to electronic records that are created outside of formal organizational recordkeeping structures.

Archivists and librarians have recently begun to focus considerable energy and resources on web archiving, i.e., identifying, harvesting, and preserving materials available from the Web.³¹ As with materials residing on personal computers, the boundaries between personal materials and official records are often very unclear. Professionals engaged in web archiving must often consider annual reports, organizational publications, blogs, wikis, and YouTube videos all in the same set of selection activities, rather than insisting on a stark line between the official and unofficial. Several recent initiatives have focused on appraisal of “social web” materials, which are often characterized as forms of personal expression but also document much of the “business” of contemporary society.³²

Digital Data Recovery and Forensics

The literature on digital archives tends to place a great emphasis on the “virtual” (i.e., intangible) nature of electronic resources. Computer systems have “an illusion of immateriality by detecting error and correcting it,”³³ but it is essential to recognize that digital objects are created and perpetuated through physical things or phenomena (e.g., charged magnetic particles, pulses of light, holes in disks). This materiality brings challenges, because data must be read from specific artifacts, which can become damaged or obsolete. However, the materiality of digital objects also brings unprecedented opportunities for archival description, interpretation, and use. Digital resources are composed of interacting components that can be considered and accessed at different levels of representation (bitstream; file as accessed through a filesystem; files as rendered through specific applications; records composed of multiple files; larger aggregations such as websites). Some of the “types of historical indications that an electronic text may contain”

include program of origin, system of origin, traces of transmission, and typists and their interaction with programs.³⁴ To ensure integrity and future use, archivists must make decisions regarding treatment at multiple levels of representation.

There is a substantial body of information within the underlying data structures of computer systems that can often be discovered or recovered. Recovery of data from physical media has been a topic of discussion in the professional library and archives literature for several years.³⁵ There is also a large and quickly expanding industry associated with digital forensics, which focuses on the discovery, recovery, and validation of information from computer systems that is often not immediately visible to common users. Several authors have recently investigated the use of forensic tools and techniques for acquiring digital collections in libraries and archives.³⁶ The Prometheus³⁷ and Presidential Electronic Records Pilot System (PERPOS)³⁸ projects have developed software for data extraction, focusing on needs of specific collecting contexts. Born Digital Collections: An Inter-Institutional Model for Stewardship (AIMS) and FutureArch are exploring workflows that include forensic copies from digital media. Another project, Computer Forensics and Born-Digital Content in Cultural Heritage Collections has also provided a significant contribution to this discussion.

Personal Information Management (PIM)

Personal Information Management refers to “both the practice and the study of the activities people perform in order to acquire, organize, maintain, retrieve, use, and control the distribution of information items such as documents (paper-based and digital), Web pages, and email messages for everyday use to complete tasks (work-related and not) and to fulfill a person’s various roles (as parent, employee, friend, member of community, etc).”³⁹ It “places special emphasis on the organization and maintenance of personal information collections (PICs) in which information items, such as paper documents, electronic documents, email messages, web references, and handwritten notes, are stored for later use and repeated reuse.”⁴⁰ After emerging as a distinct area of study in the 1980s,⁴¹ PIM has become a very active area of research in recent years. Several professional associations have been involved in hosting a regular PIM workshop series since 2005. PIM was the topic of a special issue of *Communications of the ACM* in January 2006,

and a piece in the *Annual Review of Information Science and Technology* in 2007.

Despite all of the recent energy and attention to PIM, the literature has been relatively constrained in its focus. Although PIM is intended to be inclusive of all aspects of personal information management, the primary focus of the literature has traditionally been the retrieval of personal information. However, several authors have broken that mold in recent years by examining issues of selection, management, and sharing of information over time. Several of the *I, Digital* authors are contributing to this new stream of research within PIM.

The archival literature about personal papers often emphasizes the relatively unruly ways in which the materials tend to be organized and acquired. However, the story does not end there. The study of personal recordkeeping should not be “a study about chaos but one about the impulses driving individuals and families to create, maintain, and use their own records.”⁴² PIM represents a significant body of research that suggests definite patterns of behavior in the personal creation, management, and use of information.

Tools and Support for User-Generated Collections

When discussing software to support electronic recordkeeping, the archives and records management literature has often emphasized large, enterprise-wide systems. Two very visible sources of industry guidance for such systems are DOD 5015.02⁴³ and the Model Requirements for Management of Electronic Records (MoReq).⁴⁴ Such guidance documents—and tools designed to fulfill their requirements—can be valuable for electronic recordkeeping in large institutional environments. However, it is unclear how they could support the management and preservation of and access to materials created by individuals outside such formal structures.

One potential response is to provide tools to individuals that will allow them to engage in better recordkeeping (creation, capture, management and preservation) practices themselves. Richard Cox has argued that “archivists might have a better chance of being successful in the preservation of private, non-organisational records if they worked with software manufacturers to create commercial products that individuals could acquire that enable the long-term maintenance of their electronic files and the more easy transfer

of these personal papers to real or virtual repositories.”⁴⁵ Archivists can also contribute to, support, and take advantage of efforts to develop open-source applications and services for use by individuals.

There have been several recent initiatives to develop tools to allow individuals to better manage their personal digital collections.⁴⁶ Major software vendors have also entered this arena with products such as Apple’s Time Machine, Norton 360, and Windows Live OneCare, which help individuals to keep their bits safe. A particularly active area of development has been tools and services for personal web “archiving.”⁴⁷ ContextMiner⁴⁸ and ArchivePress⁴⁹ are designed for building collections from the social web, such as YouTube and blogs.

Finally, there are various targeted documents designed to provide guidance for individuals to manage their own digital materials as cultural resources. The Image Permanence Institute has created several such documents.⁵⁰ In relation to online personal content, the Electronic Frontier Foundation provides a service called TOSBack to inform consumers of the terms of service related to systems that they use,⁵¹ and Google maintains a site called the Data Liberation Front that provides instructions for getting information into and out of Google services.⁵²

What This Volume Is *Not* About

We have become a nation of snoopers.

—U.S. Representative Cornelius Gallagher, 1966⁵³

This volume does not place much emphasis on the vast databases of relatively discrete and structured data about individuals that are being collected, managed, and mined by the private or public sector—i.e., “the systematic capture of everyday events”⁵⁴ that is generating “a vast network of stored information about the populace that must rival the infinite account books of Heaven.”⁵⁵

Now that so many human behaviors and interactions are carried out through the generation and exchange of symbolical representations in digital form, individuals leave behind a vast number of micro-traces. According to one estimate, less than half of the “portion of the digital universe created by individuals . . . can be accounted for by user activities—pictures taken, phone calls made, emails sent—while the rest constitutes a digital ‘shadow’—

surveillance photos, web search histories, financial transaction journals, mailing lists, and so on.”⁵⁶ In other words, “data is the perspiration of the Information Age,”⁵⁷ and plenty of organizations are standing by to soak up the sweat. Private sector examples include credit card companies, credit agencies, marketing companies, voter data aggregators, search providers, and online retailers. Public sector examples include data warehouses of tax collecting agencies and intelligence agencies. The massive amount of data related to individuals and their transactions is evidenced by numerous companies that report or are believed to be running web server farms that number in the tens of thousands.⁵⁸ The aggregation of the various “shards of data” held by public and private entities about a person can be considered to be his or her “digital dossier.”⁵⁹

While such data have both contemporary importance and significant potential future research value,⁶⁰ the data are often outside of the control of either individuals or records professionals, and are generally managed as diffuse units of data, rather than as “personal collections.” Even more importantly, the diffuse digital dossier about a person “fails to capture the texture” of her life.⁶¹ The digital dossier does not usually serve one of the most important purposes of personal archives: giving voice to the individual. Contributions to *I, Digital* focus on materials that are directly, *of* (and often purposely shared *by* or *with*) individuals, rather than all digital information that is *about* individuals. For example, rather than investigating the various forms of surveillance of individuals by corporate or government actors, this volume places considerable emphasis on “participatory surveillance.”⁶²

Another noteworthy set of activities that are not a direct focus of this volume are those that allow individuals to submit their own stories and items to larger, shared repositories. Prominent examples include the BBC’s WW2 People’s War project and Virginia Tech’s April 16 Memorial website.⁶³ Such projects hold great promise for representing and preserving individual voices that would be missed by collecting driven exclusively by institutional recordkeeping requirements, much as oral history efforts have done for many years. However, they do not directly address the much wider universe of digital materials being created and collected by individuals, which is the focus of *I, Digital*.

Summary of Contributions to this Volume

I, Digital brings together insights, findings, and perspectives of authors with expertise in various aspects of the management of digital information. The first part of this volume is devoted to conceptual foundations and motivations. The first chapter—the one you are currently reading—explains the scope and motivation for *I, Digital*, as well as setting it within the context of related literature.

Robert Capra and I have jointly authored the next chapter, which is entitled “And Now the Twain Shall Meet: Exploring the Connections between PIM and Archives.” Capra is a Post-Doctoral Fellow, and I am an Associate Professor at the School of Information and Library Science, University of North Carolina, Chapel Hill. In this chapter, we describe how, over the past two decades, two complementary, but relatively unconnected, streams of literature have emerged: electronic recordkeeping (ERK) and personal information management (PIM). The former builds upon long-standing principles and practices in archives and records management (ARM), while the latter has its strongest roots in human-computer interaction and information science. A fundamental issue that cuts across both areas of literature is how to make meaningful use of information artifacts when one is no longer embedded in the original context of creation, capture, or use. The ARM literature formulates this as secondary use, while the PIM literature focuses on refinding and reuse. In this chapter, we identify and elaborate on areas of commonality and difference in these two areas of study. We conclude with several open research questions and argue that there is great potential for research that is attentive to the complex set of factors that PIM and ARM can collectively bring to these questions.

In “Ghosts in the Machine: Towards a Principles-Based Approach to Making and Keeping Digital Records,” Adrian Cunningham, Director of Strategic Relations at the National Archives of Australia, argues that “it is time to take a step back from discussing time-bound, technology-specific practical strategies and technical solutions and to focus instead on a more enduring, principles-based approach to dealing with the complex realities of digital recordkeeping.” He proposes twelve principles, which are adapted from a set of principles developed by the International Council on Archives for institutional recordkeeping. In the process of articulating and justifying

the relevance of the twelve principles, Cunningham makes a strong case for collaboration and mutual learning among those responsible for personal records and organizational records.

Cathy Marshall, who is a Senior Researcher at Microsoft Corporation and an Affiliated Researcher at Texas A&M University, explores “Challenges and Opportunities for Personal Digital Archiving.” She begins with a discussion of two 1995 quotations, one from John Seabrook and the other from Jeff Rothenberg. She contrasts the visions from those authors with the state of contemporary personal collections, which are likely to be composed of “thousands and thousands of pictures, hours and hours of undifferentiated digital video footage, music both purchased and shared, personal finances, the beginnings of what will one day be extensive medical records, email messages important and trivial, and countless other files representing day-to-day interactions with the computer and with other people by means of the computer.” Personal digital collections are not only diverse but also “apt to span many repositories, storage media, and file systems.” Management of personal digital archives over time “is a problem that extends far beyond accurately rendering obsolete formats.” The rest of Marshall’s discussion is organized around three questions: What’s in a personal digital collection (as a matter of selection and appraisal)? What is “the technological basis” for individuals’ storage, maintenance and preservation of their personal digital collections? What are individuals’ stewardship practices and what practices should they be taught? The result is a sober assessment of strategies and options for stewardship of personal materials.

Sue McKemmish is a Professor at Monash University’s Faculty of Information Technology. In 1996, she published a very reflective and influential piece called “Evidence of Me . . .” in which she explored the nature of personal recordkeeping and social mandates for “witnessing to individual lives.” In her chapter for this volume, entitled “Evidence of Me . . .” McKemmish revisits her earlier piece within the context of new technologies, record forms, and practices. Building on Derrida’s claim that “mutation in technology changes . . . the possibility of archiving,” she explores the relationship between personal and public recordkeeping, as well as the place of records within a wide array of potential “memory stores” about individuals. Along the way, McKemmish investigates and challenges many conventional archival assumptions about personal archives.

The second part of *I, Digital* is devoted to particular types, genres, and forms of personal traces; areas of further study; and new opportunities for appraisal and collection. “Three Backups Is a Minimum’: A First Look at Norms and Practices in the Digital Photo Collections of Serious Photographers” was authored by Kristina Spurgin, who is a Doctoral Candidate at the School of Information and Library Science, University of North Carolina, Chapel Hill. Spurgin argues that amateur photographers fall at the boundary between three different arenas that have been represented in previous literature: “a) institutions and organizations; b) casual snapshotters collecting mainly family photos; and c) unknown individuals sharing, tagging, and annotating photo collections on the Web.” Spurgin investigates the “norms and expectations of the social world of photography” and implications for the practices of amateur photographers. She reports on preliminary analysis of a year of discussion threads from an online forum devoted to discussing collection management and digital photography workflow. She asks whether “there is anything new and important to learn from studying the personal collection management of amateur photographers,” and the answers are very compelling. She places this investigation within a larger context of personal collections related to activities pursued as “serious leisure,” and argues that “photographs alone do not comprise the photography-related collections of amateur photographers.”

In “Collecting the Externalized Me: Appraisal of Materials in the Social Web” I argue that, with the adoption of highly interactive web technologies (frequently labeled “Web 2.0”), forms of individual documentation and expression are often inherently social and public. Such online environments do allow for personal documentation, but they also engage external audiences in ways not previously possible. This opens up new opportunities and challenges for collecting personal materials, particularly within the context of archival appraisal. The chapter explores the nature and characteristics of user-generated content on the Web and various ways in which principles of archival appraisal can be operationalized in an environment in which collecting takes the form of submitting queries and following links. As with any other case of archival appraisal, the fundamental questions relate to what one is attempting to document and why.

The final section of *I, Digital* addresses the practical implications of the issues raised in the previous chapters for the strategies and practices of

professionals who work in memory institutions. Tom Hyry and Rachel Onuf published a piece in 1997 called “The Personality of Electronic Records,” in which they made a strong case for widening the professional discourse on electronic records to be more inclusive of concerns related to personal materials. In this volume, Hyry, who is Director of Special Collections at the University of California, Los Angeles (UCLA), and Onuf, who is Archives Analyst for the Archivists’ Toolkit project, have again joined forces in “Take it Personally: The Implications of Personal Records in Electronic Form.” They explore the major opportunity of digital recordkeeping to reflect “digital contexts” and for “future social historians and others invested in documenting regular folk.” They argue that the archival profession “has come full circle, back to the idea that the records we need to preserve are rooted in larger systems—but now in online networks, rather than organizational recordkeeping systems—and archivists need to focus on holistic capture of this data in order to meaningfully document the individual.” They conclude by elaborating several recommendations: explicitly collect the digital; develop enhanced access systems; and embrace and acquire new skills.

In the chapter by Leslie Johnston, Digital Media Projects Coordinator at the U.S. Library of Congress, titled “Making it Usable: Developing Personal Collection Tools for Digital Collections,” she reports on her earlier work at the University of Virginia (UVa) Library. Johnston explains that a major assumption of the UVa Library “while developing its Digital Collections Repository was that the library was responsible not only for collection and repository building, but also for the creation of tools for collection use.” She reports on the development of a User Collection Tool to organize personal digital media collections, a PageComber tool to gather images from the open web, and the Collectus digital object collector tool to develop portfolios of all object types and create presentations. This work, and Johnston’s articulation of the development process, provides many lessons for other memory institutions that hope to actively engage with record creators, and better integrate digital library systems with the environments being used by individuals in support of their scholarly activities.

In “Curating the I, Digital,” Susan Thomas, Digital Archivist at Oxford University’s Bodleian Library, examines how the Bodleian Library has been adapting and evolving to address contemporary personal archives. She offers an overview of the Bodleian’s activities, both in terms of everyday practices

and two very influential projects that I discussed earlier: Paradigm and futureArch. The efforts of Thomas and her colleagues serve as a compelling and informative model for memory institutions across the globe that are undergoing the transition toward incorporating born-digital materials into their regular operations and practices.



When it comes to personal collections, we live in exciting times. Individuals are living their lives in ways that are increasingly mediated by digital technologies. While this mediation presents many technical challenges for long-term preservation, it also provides unprecedented opportunities for documenting the lives of individuals. There is a growing community of practice related to the acquisition and management of personal digital collections, with many of the participants being archivists, special collections librarians and manuscript curators. The PIM research community also continues to engage in valuable research, with many signs that they can serve as valuable collaborators with archival researchers. I believe that *I, Digital* can serve as a catalyst in a process of growing attention to and progress with personal digital collections, which is already underway. I look forward to great things ahead.

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- ⁶³ See <http://www.bbc.co.uk/ww2peopleswar> and <http://www.vt.edu/remember/memorial>. For other examples, see the BBC's Capture Wales (<http://www.bbc.co.uk/wales/audiovideo/sites/galleries/pages/capturewales.shtml>); City Stories Project (<http://www.citystories.com>); COINE—Cultural Objects in Networked Environments (Geoff Butters, Amanda Hulme, and Peter Brophy, "Supporting Creativity in Networked Environments: The COINE Project," *Ariadne* 51 (2007), <http://informationr.net/ir/10-3/paper232.html>, and <http://www.uoc.edu/in3/coine>); Forever LifeStories (<http://www.forevernetwork.com/lifestories>); Living Cultural Storybases (<http://www.storybases.org>); Montana Heritage Project (<http://www.montanaheritageproject.org>); Moving Here: 200 Years of Migration to England (<http://www.movinghere.org.uk>); Myfamily.com (<http://www.myfamily.com>); National September 11 Memorial and Museum at the World Trade Center (<http://www.national911memorial.org>); and Statue of Liberty—Ellis Island Foundation (<http://www.ellisland.org>).



Contributors

Robert Capra is a Post-Doctoral Fellow and adjunct faculty member in the School of Information and Library Science at the University of North Carolina at Chapel Hill. His research interests include human-computer interaction, personal information management, and digital information seeking behaviors, tools, and interfaces. He holds a PhD in computer science from Virginia Tech and MS and BS degrees in computer science from Washington University in St. Louis. At Virginia Tech, he was part of the Center for Human-Computer Interaction where he investigated multiplatform interfaces, information re-finding, and digital library interfaces. Prior to Virginia Tech, he worked in corporate research and development, spending five years in the Speech and Language Technologies group at SBC Communications, focusing on voice user interfaces, speech recognition, and natural language processing.

Adrian Cunningham has worked at the National Archives of Australia since 1998, where he is currently Director of Strategic Relations and Personal Records. Adrian was the Secretary of the International Council on Archives (ICA) Committee on Descriptive Standards (2002–2004), and is the Treasurer of the ICA Pacific Regional Branch, the convenor of the Australian Society of Archivists Descriptive Standards Committee, the Chair of the AGLS Metadata Working Group, and a member of Standards Australia's Committee IT/21, Records Management. Adrian previously worked at the Office for Government Information Technology and as a Private Records Archivist/Librarian at the National Library of Australia, the Pacific Manuscripts Bureau, and the State Library of New South Wales. Adrian was the President of the Australian Society of Archivists from 1998 to 2000, and was named a Fellow of that Society in 2007.

Tom Hyry is the Director of Library Special Collections at the University of California, Los Angeles. From 2006 to 2010, Hyry was Head of the Manuscript Unit in the Beinecke Rare Book and Manuscript Library at Yale University. Prior to that, he spent nine years in Yale University Library's Manuscripts and Archives Department, where he began as an entry-level archivist and finished as the Head of arrangement and description. Hyry earned a master's degree in information and library studies from the University of Michigan and a bachelor's degree in history from Carleton College.

Leslie Johnston is the Manager of Technical Architecture Initiatives for the National Digital Information Infrastructure and Preservation Program at the Library of Congress. She was previously Digital Media Project Coordinator at the Library of Congress. Prior to that, she served as Database Specialist at the Getty Research Institute, Documentation Coordinator for the Historic New Orleans Collection, Academic Technology Specialist for Art and the Cantor Arts Center at the Stanford University Libraries, Head of Instructional Technology and Library Systems at the Harvard Design School, and Head of Digital Access Services at the University of Virginia Library. She founded the online journal *eSpectra*, edited the print journal *Spectra*, and served on the board of the Museum Computer Network. She holds a BA in anthropology and an MA in archaeology from University of California, Los Angeles.

Christopher A. (Cal) Lee is an Associate Professor at the School of Information and Library Science at the University of North Carolina at Chapel Hill. He teaches courses on archival administration; records management; digital curation; understanding information technology for managing digital collections; and the construction of policies and rules for digital repositories. He is one of the lead organizers and instructors for the DigCCurr Professional Institute, which is a week-long continuing education workshop on digital curation, and teaches professional workshops on the application of digital forensics methods and principles to digital acquisitions. His primary area of research is the long-term curation of digital collections. He is particularly interested in the professionalization of this work and the diffusion of existing tools and methods (e.g., digital forensics, web archiving, automated implementation of policies) into professional practice.

Sue McKemmish holds the Chair of Archival Systems at Monash University, and is Director of the Centre for Organisational and Social Informatics. She is engaged in major research projects relating to recordkeeping metadata, information portals, Indigenous archives, and the nexus between memories, communities, and technologies. She directs the postgraduate teaching programs in archives and records at Monash University, and has published extensively on recordkeeping in society, records continuum theory, recordkeeping metadata, and archival systems.

Cathy Marshall is a Principal Researcher at Microsoft Research's Silicon Valley laboratory after a six-year stint in Microsoft's product divisions. Her research interests include personal information management, the preservation of and long-term access to personal and scholarly digital belongings, and interaction with digital media. She was a member of the research staff at Xerox PARC and is an affiliate of the Center for the Study of Digital Libraries at Texas A&M University. Marshall has delivered keynote addresses at numerous international venues. She recently completed a book called *Reading and Writing the Electronic Book*, and has published more than eighty peer-reviewed papers. She also has been awarded nine patents, and has nine other patents pending.

Rachel Onuf teaches Preservation Management for Simmons College Graduate School of Library and Information Science, and works as a consultant for a range of collecting repositories. Much of this work involves preservation planning and collection assessment, and is grounded in her experience in various research libraries, including the Historical Society of Pennsylvania. She earned her MILS with a concentration in archives from the University of Michigan, and an MA from the University of Virginia, with a focus on the nineteenth-century South. She lives in western Massachusetts, where she also works with cows and teenagers on a school farm.

Kristina M. Spurgin is a Doctoral Candidate at the School of Information and Library Science, University of North Carolina at Chapel Hill. Her college photography professor said she could likely make a career out of photography, but would have to shoot a lot of chicken feed bags to make a living. She has never done professional photography. She studies how people make sense of personal information management, catalogs electronic resources, and teaches.

Susan Thomas is Digital Archivist at the Bodleian Library at the University of Oxford, where she is responsible for developing the library's capacity to curate, preserve, and provide access to born-digital archives. She is also an Honorary Lecturer at the University of Dundee's Centre for Archive and Information Studies, where she teaches the management and preservation of digital records for the MLitt and MSc programs. Thomas holds a BA in English language and literature from the University of Manchester and an MA in archives and records management from the University of Liverpool.



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