# FROM PAPER TO CYBERSPACE: CHANGING COMMUNICATION TECHNOLOGIES AND THE IMPLICATIONS FOR PERSONAL RECORDS ARCHIVISTS

BY

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A Thesis
Submitted to the Faculty of Graduate Studies
in Partial Fulfillment of the Requirements
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MASTER OF ARTS

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# ABSTRACT

In the last fifty years, and especially within the last decade, the way people communicate has changed tremendously. Society has gone from largely paper-based means of communication to new computerized technologies. With the widespread use of the Internet, documents that were once tangible and textual are now virtual and composed of bits and bytes. People are creating documents that will never see a conventional physical form. Novels are being created, diaries are being written, and family histories are being organized and displayed, without ever having a familiar physical form.

The problem this creates for archivists is great. While a considerable amount of research has been done on institutional electronic records, and electronic public records in particular, the personal side has been largely ignored. Few people have addressed the enormous implications of computers and, especially, the Internet for personal records in general and personal records archives in particular. While it can be argued that some of the research that is being done on public electronic records can be used by personal records archivists, it can also be said that personal records archivists need to develop an approach of their own when dealing with these new forms of communication.

This study hopes to raise awareness among archivists and researchers of the problems facing personal records archivists in this new era. Chapter One shows that the Canadian "total archives" tradition has meant that personal records have always been an important part of the mandate of Canadian public

archives. Researchers and the wider society which funds these archives will thus rightly expect that archivists in these archives will address the matter of personal electronic records. Chapter Two provides an overview of archival responses to institutional electronic records and archives. This will show that heavy emphasis has been placed on public or government electronic records. While this orientation can provide useful insights for personal records archivists, it does not address all of their concerns. Chapter Three will examine some of the most recent developments in computerized communications technologies people are using when creating personal documents. These technologies pose new challenges for personal records archivists. A short history of personal communications will put this challenge into context. Chapter Four will convey various archival responses to personal electronic records. Some archival institutions (including the Provincial Archives of Manitoba, the University of Manitoba Department of Archives and Special Collections, and the National Archives of Canada) have been surveyed to see how they have responded to personal electronic records and how they plan to do so in future.

This thesis aims to raise awareness among archivists and researchers of the implications of personal electronic records for archives. This is an important, yet largely understudied, aspect of archives. It is hoped that this study will further examination of this key problem by archivists and others alike.

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Tom Mitchell first interested me in a career in archives and he deserves special thanks for both that and his involvement in this project. Adrian Cunningham's seminal article on this topic was the basis for this study, and his interest in my project was both helpful and insightful. Rick Barry also took great interest and time in aiding me throughout my study. Lucie Paquet, Shelley Sweeney, Maggie Shapely, Paula Waring and Gordon Dodds were kind enough to answer my survey in thoughtful detail.

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# INTRODUCTION

During the last half of the twentieth century, and especially within the last decade, the way people communicate has changed drastically. We have gone from a largely paper-based community to a society that uses new and ever-changing forms of technology in order to communicate. This new technology is largely based on the computer world and, with the wide-spread use of the Internet, documents that were once tangible and textual are now virtual and comprised of bits and bytes. Novels are being created, diaries are being written, and family histories are being organized and displayed, all without ever leaving a virtual existence.

> Information resides nowhere and everywhere. It reveals no author, occupies no space, promises no authenticity, exhibits no historicity. It flows anonymously across space and time. Information as record may be ephemeral, or timeless, locked and inaccessibly attached to the obsolete media, forever indecipherable, zombie-like, the living dead of the document world. At other times, information explodes off paper into thin air and circulates seemingly independently from any point of origin, ready at all times to be manipulated, changed, replicated, endlessly reproduced, or effaced at will. It cannot easily be contained in time and place.[1]

This new era in communication and information has caused scholars and historians alike to question the authenticity of the record. What, if anything, is a record? What is it that archivists should be acquiring and preserving for future millennia? "The production of electronic information radically alters traditional

notions of time, community, and history, while simultaneously blurring the distinction between reality and image."[2]

Another pressing problem that archivists need to deal with is how the rise in technology has meant a decline in the number of preserved records. While records are increasing exponentially in quantity, the durability of the various media used to produce and convey them has decreased dramatically.

> The clay tablets that record the laws of ancient Sumer are still on display in museums around the world, and many medieval illuminated manuscripts written on animal parchment still look as if they were painted or copied yesterday, whereas modern books printed on acidic paper as recently as the nineteen-eighties are already turning to dust…. And the latest generation of digital storage is considered to be safe for only ten years.[3]

The information era has posed distinct new problems for archivists, especially those concerned with personal records. Cunningham suggests that "half of all records created are personal records" and that this assertion "serves to remind us of the relative significance of the personal records dimension in the world of archives and records."[4]

Personal records are essential to the collective memory of a society. In fact, it could be argued that personal records shape the collective memory far more than organizational or public records. While these more imposing records are useful in understanding how a society is run and who runs it, it is often the long-forgotten diaries and letters that bring to the forefront those whom the dominant society has left out, including women and minorities. Often, the public

records of a given society neglect to mention either of these groups, and it is up to the researcher, scholar and archivist to ensure that these long-overlooked voices are heard.

> Archivists, in particular collecting archivists, are in part in the business of ensuring that a personal archives considered to be of value to society at large is incorporated into the collective archives of the society, and thus constitutes an accessible part of that society's memory, its experiential knowledge and cultural identity—evidence of *us*.[5]

Now that personal records are increasingly being created in electronic form, archivists must ensure that they are not being left to become lost, obsolete, or unreadable, they must ensure that the collective memory lives on for future generations. The problems this creates for archivists is tremendous and overlooked. While a considerable amount of research has been and is being done with regards to electronic records in general and public records in particular, the personal side has been largely ignored. Few people have addressed the enormous implications that computers and especially the Internet have caused and will cause for personal records in general and personal records archives in particular.

> There seems to be some sense by manuscript curators and many other archivists who are primarily concerned with the acquisition and maintenance of non-organisational records that the work, theorising, and discussion of electronic records archivists is not relevant to them, or, even, that the new work on electronic records management represents a

diversion from the real work and mission of the archivist.[6]

Some personal records archivists are worried that spending too much time discussing electronic records will cause other important archival thoughts, such as the symbolic significance of archives, to fall to the wayside. Moreover, as Cox points out, many question whether a computer disk can ever have symbolic significance. They suggest that society is actually becoming increasingly reliant on these new modes of communication and recordkeeping.[7]

The failure of personal records archivists to address the problems surrounding the archiving of personal electronic records is causing significant amounts of important archival material to be obliterated. Some archivists hope that someone in the future will solve the problems associated with personal electronic records, and therefore they will not have to deal with it. Some believe that the issue will not fully arise until long after they retire. The fact is, records created today and in the recent past are being ignored, lost and forgotten, due to lack of initiative on the part of personal records archivists.

There has been a considerable amount of research done regarding electronic records in general, although the personal side is all but left out of these debates. While it can be argued that some of the research that is being done with regards to public electronic records can be used in the studies of personal records archivists, it can also be argued quite convincingly that personal records archivists need to develop approaches of their own when dealing with the new forms of communication and recording information.

The first chapter of this study outlines the history and relevance of the Canadian "total archives" system. Total archives is a uniquely Canadian tradition. Archivists in Canada have always followed a mandate, whether written or unwritten, that ensures that both public and private records are preserved for posterity in public archival institutions. Other countries have tended to separate public and private records, sending the public records to archives and the private records to libraries or private repositories. This chapter proves that there is a precedent in the Canadian archives community to treat personal records as an important form of documentation. It argues that there is ample reason to take personal electronic records seriously and to determine ways to ensure their survival.

The second chapter deals with electronic records in general. It is in this section that the archival responses to electronic records are examined. This chapter shows that there is an overemphasis in the archival world on electronic records created by and for public institutions, and a dearth of information and studies relating to the examination of personal electronic records. Many different issues concerning electronic records and archives are looked at in this chapter, including the changing role of archivists, custodial versus post-custodial archives, description, preservation, accessibility and use issues, and several major research projects including initiatives at InterPARES and the University of Pittsburgh. While all of these studies have brought increased knowledge about electronic records into archives, they are not specifically intended for personal records. This section shows that while the archival study of public electronic

records can provide a base for personal records archivists, it also creates problems that need to be addressed by the archival community. This chapter also examines the research of Adrian Cunningham and Lucie Paquet on what archivists must look for when dealing with the unique problems of personal electronic records.

In 1994, Cunningham, an Australian archivist, published a short article entitled "The Archival Management of Personal Records in Electronic Form: Some Suggestions"[8] in which he raised some very valid reasons why archivists need to consider personal electronic records, and why they need to do so sooner rather than later. He has followed this article with several more and continues to show an interest in what personal records archivists can do to address the issue of electronic records.

Cunningham cautions that archivists must be made aware of the need to ensure that records can be migrated from one format to and that they must advocate a front-end approach when dealing with personal electronic records. That is, archivists must become involved with the potential donor at the records creation stage, before electronic records can be lost due to changing technology. This is a very different view of how archivists should approach private donors. In the past, records were received at the end of a donor's life, or even after death. Now, because technology is causing records to be lost at an alarming rate of speed, Cunningham suggests that archivists identify potential donors early in their creative life and help them develop a recordkeeping system that will address technological issues as they arise. The biggest opponents of this

approach suggest that the archivist will have too much control over the creation of records, and that the records would not be as authentic as if they had been left alone. Cunningham counters that any intervention by an archivist would be documented, thus ensuring that the records could still be considered authentic. That is, if researchers in the future are aware that an archivist was involved in the preservation of the records, then the records themselves are no less authentic, they are just different than if they had been left alone. Cunningham argues that changing the records slightly through intervention makes more sense than having no records left at all.

Lucie Paquet is a Canadian archivist who has been involved in extensive studies regarding personal electronic records. She has written several articles on the technical aspects of preserving personal electronic records in the National Archives of Canada. She discusses several ways that the archives have come up with in order to ensure that these records are preserved in the most authentic way possible. She has recently written an article entitled, "Electronic Records from the Private Sector: Experience, Strategies, and Methods for the Forgotten Half of the Archival Digital Revolution."[9] In this study, she illustrates what the Manuscript Division is doing at the National Archives of Canada with regards to personal electronic records. She has also followed up this article with others on the same topic.

Both Cunningham and Paquet have recognized the importance of personal electronic records and the need for archivists to determine a way to deal with these records in the archives. They raise valid and important points,

and leave the field wide open for those with opinions, ideas and questions of their own.

The third chapter deals with electronic records and the technologies that people are using in their private lives. A short history of communication technologies in general places the study in context. This history includes looking at orality, the rise of literacy, the invention of the telephone, and the ever-widening scope of the personal computer. An examination is made to determine how these various forms of communication fit into an archival perspective and affect the archival record. The largest part of this chapter is devoted to the Internet and the many programs and services that are available to individuals. New computer technologies including Palm Pilots and various alternatives, including wireless e-mail, the World Wide Web, and Internet capable cellular phones are changing how people communicate and store memory. Personal records archivists need to be aware of these trends so that they can ensure that vital information does not disappear.

There are many Internet related services that are also affecting archives and archivists. For instance, with the rise in digital photography, including digital cameras and specialized computer programs for processing and sending photographs to far-flung corners of the earth, the concept of the original is being lost. Companies like Kodak offer programs that allow individuals to reduce red-eye, distort images, add words or pictures, and even take unwanted people out of photographs. Where is the original picture in all of this technology? Is it the unaltered version, or is it the one that the individual has decided upon?

Questions like this need to be addressed by archivists, as the concept of the original has always been one of the most important tenets in archival tradition.

As well, there are now thousands of scrapbooking and memoir services available on the Internet. These services generally explain to people how they should store their memories. There is usually no professionally trained archivist on staff, yet the word "archive" is bandied about ceaselessly. Individuals are being told exactly how best to archive their records, without the benefit of professional advice. Actual archivists need to be made aware of this phenomenon, as these services are changing the way people view and store their memories. Much of this storage is done digitally and both individuals and archivists need to be aware of how this technology could affect archival institutions.

There are also dozens of genealogy services now available on the Internet. Again, these websites are often run by self-proclaimed genealogists who will help you find your past. One site will search foreign and US censuses, genealogy databases, immigration records, library card catalogues, military records, Native American records, phone and city directories, foreign and US vital statistics and even wills for individuals, while they remain within the comforts of their home. These web-based services are something that archivists need to be aware of as they are changing how archives are used and who is using them.

The last part of this chapter examines two people who attempted to live completely digital existences. They are studied here in order to show archivists

how digital society is becoming, and how they must keep up with technological trends in order to ensure that collective memory does not fall by the wayside.

The final chapter looks at various archival responses to personal electronic records. Several institutions are studied and archivists questioned to see what is being done to address the issue of personal electronic records. There are some personal reflections on the topic of personal electronic records, as well as some basic answers to what is being done at some of the larger institutions to ensure the archiving of these records. An in-depth study of how the National Archives of Canada is coping with technology and personal records will be showcased here, based primarily on the work done by Lucie Paquet.

The conclusion of this study will examine the preceding chapters and offer strategies that personal records archivists could adopt in order to ensure the preservation of personal electronic records. These strategies are mainly theoretical in nature as few people have offered any definite direction for these records. It is hoped that by raising possible strategies and questions in this section that archivists will begin to see the importance of dealing with these records in a timely fashion, so as not to lose any more records of archival importance through lack of awareness or enterprise.

**Endnotes**

[1] Bernadine Dodge. "Places Apart: Archives in Dissolving Space and Time." <u>Archivaria</u> 44 (Fall 1997), p. 120.

[2] Ibid., p. 119.

[3] Alexander Stille. "Overload." <u>New Yorker</u> (March 8, 1999), p. 41. Quoted in Susan S. Lukesh. "E-Mail and Potential Loss to Future Archives and Scholarship or The Dog that Didn't Bark." Online. Available at: <u>http://firstmonday.org/issues/issue4_9/lukesh/index.html</u>. Accessed: 6 April 2000.

[4] Adrian Cunningham. "The Mysterious Outside Reader." <u>Archives and Manuscripts</u> 24, 1 (May 1996), p. 131.

[5] Sue McKemmish. "Evidence of Me..." <u>Archives and Manuscripts</u> 24, 1 (May 1996), p. 29.

[6] Richard J. Cox. "The record in the Manuscript Collection." <u>Archives and Manuscripts</u> 24, 1 (May 1996), p. 46.

[7] Ibid., p. 47.

[8] Adrian Cunningham. "The Archival Management of Personal Records in Electronic Form: Some Suggestions." <u>Archives and Manuscripts</u> 22, 1 (May 1994), pp. 94-105.

[9] Lucie Paquet. "Electronic Records from the Private Sector: Experience, Strategies, and Methods for the Forgotten Half of the Archival Digital revolution." Terry Cook, ed. <u>Electronic Records Practice: Lessons from the National Archives of Canada</u>. (Kluwer Academic Publishers, forthcoming), pp. 285-312.

**CHAPTER ONE**


**TOTAL ARCHIVES: PERSONAL ELECTRONIC RECORDS AND THEIR PLACE IN THE CANADIAN ARCHIVAL TRADITION**


In order to understand the importance of personal records, electronic records, and personal electronic records in archives, it is important to have some knowledge of the Canadian archival tradition. While many other countries use state-run archives for the sole purpose of collecting public or government records and leave private records to the domain of private facilities and libraries, the Canadian archival tradition has always been inclusive. Government or public archives have acquired both public and private records from all walks of life and in every medium. Canada's current National Archivist Ian Wilson has written that,

> Canadian government archives, national, provincial and municipal, preserve not just the official administrative records but also acquire private materials in all documentary media bearing on the history of their area. Such broad mandates lead our government archives to combine the traditional role of a record office with that of an active cultural agency interacting with the community around it.[1]

This way of archiving has become known as the "total archives" approach. This tradition acknowledges the importance of the contribution of the private records of Canadians to the national documentary heritage, regardless of the format these records may take. Archivist Laura Millar suggests that this concept grew from,

> A recognition of the central role of government in archival enterprise; an understanding of the need to foster the identity of English Canadians; an acceptance of the continuing validity of acquisition and copying of private sector records by public institutions; a recognition of the importance of records management, particularly in the public sector and; a recognition of the importance of preserving records in a range of media.[2]

Millar also states that it has taken over a century and a half for the Canadian total archives concept to develop.[3] She believes that there are three distinct phases in the evolution of total archives in Canada. The first phase occurred from the late nineteenth century to the early twentieth and saw, "a small population of archivists take on a wide range of responsibilities, from collecting historical information, to copying foreign-owned records, to interpreting Canada's past."[4] Canada began its federal archival program in 1872, with the decision to create an Archives Branch within the Department of Agriculture.[5] Douglas Brymner, who up until this point had been a journalist, was appointed as the Senior Second Class Clerk in charge of the new repository. Brymner was given few instructions, beyond the vague mandate to "seek out historical records of predecessor governments, regardless of location. It was implicit that he would acquire, copy, or otherwise secure the records, or the information in them, but his work was never more explicitly outlined."[6] This was the inauspicious beginning of total archives in Canada, although the term would not be coined for almost a century.

Because there was little in archival literature at this time outlining how to begin an archival program, Brymner probably borrowed his collecting strategies from the various historical societies operating in Canada during the same period. This can be seen in the collections he acquired, many of which were held by individuals or families.[7]

Brymner hunted down records relating to Canada and began an extensive copying program. While he was successful in acquiring many records from England, he had a problem in Canada. The Department of the Secretary of State, which until then had been responsible for federal records, was determined not to let Brymner gain control over the current public records of Canada. The Secretary of State appointed a Keeper of the Records in an attempt to retain control of the federal records.[8] This rivalry helped pave the way for a "total archives" mandate as Brymner had to rely on acquiring records that reflected the history of Canada, but were not official government records.

Brymner also faced an attempt in 1882 by the Library of Parliament to acquire the copies of the records the archives had made.[9] Because of this threat, Brymner was able to explain the difference between archivists and librarians. This was probably the first time that an "attempt was made in Canada to define the foundations of the discipline of archival science by differentiating it from another profession."[10]

In the early 1880s Brymner stated in his reports a clear mandate for the Archives Branch. He wrote:

> The special object of the office ... is to obtain from all
> sources, private as well as public, such documents as
> may throw light on social, commercial, municipal, as
> well as purely political history .... In so far as regards
> the history of British North America, every document
> relating to it should be found in the Archives Office,
> even such as at first sight may appear to have with it
> only a remote connection.[11]

Thanks to Brymner's visionary approach to the Archives Branch, Canada was already well on its way to achieving a total archives mandate. Brymner died in 1902 and in 1904 Arthur Doughty was appointed to the position of Dominion Archivist. Doughty was a former librarian at the Quebec Legislative Library. As the positions of Keeper of the Records and Dominion Archivist had been amalgamated by then, Doughty did not have to face the rivalry that Brymner contended with. This left Doughty free to collect records to his heart's content. In the first three years of Doughty's appointment, he increased holdings from 3,157 volumes to 12,600.[12] It is readily apparent that Doughty was a prolific collector. He was even known as "the Great Thief."[13] In 1925, it was written of Doughty,

> His power of extracting things from people is so well
> known that Queen Mary said to him one day (I
> suppose at a Levee): 'There's nothing moveable here
> that you can take, Dr. Doughty, everything's nailed
> down.' 'I thought so too,' he said, 'but I have found
> the only moveable thing,' & ... produced from his
> pocket the Band programme.[14]

Ian Wilson writes that, like Brymner, Doughty, "paid little heed to distinctions amongst archives, libraries, museums and art galleries."[15] Through

Doughty, the concept of "total archives" really began to flourish. He acquired records of all sorts, public and private, in all forms of media. As a result of these acquisitions, several separate sections of the archives were formed in 1908.[16] This included the Manuscript Collection, which would take control of private records acquired by the archives.

The Public Archives Act was passed in 1912 and served to strengthen the archives' mandate to collect from all types of records. Section 6 of the Act stated that "The Public Archives shall consist of all such public records, documents and other historical material of every kind, nature and description...."[17] This was the first official mention of a "total archives" mandate, although the wording of this mandate remained ambiguous for several decades after the Act appeared. As well, the problems the archives had in obtaining federal records meant that the "cultural mission generally prevailed," and many private collections were acquired throughout this period.[18]

Doughty retired as Dominion Archivist in 1935 and died the following year. To honour Doughty's enormous contribution to Canadian historiography, the government erected a statue in his memory. He is the only federal public servant to have been so honoured.[19] Of Doughty, Prime Minister William Lyon Mackenzie King said he "did not know of another man in the Public Service who had made so important a contribution to our public life."[20]

The next key phasinof the development of the total archives approach at the Public Archives occurred in the aftermath of World War II and during the growth of the federal public sector, both of which resulted in a vast increase in

the quantities of historically valuable government records[21] During this period the archives had to reconcile the cultural purpose it had long emphasized with management of the government records it had been neglecting. Archivists had to do this while also learning to cope with the new communication technologies that were appearing. Dr. W. Kaye Lamb, Dominion Archivist 1948-68, was successful in creating a public records program at the archives. Lamb took a forceful approach to the acquisition of public records and, under his direction, the archives "underwent a period of unprecedented development and progress."[22] Lamb, however, was not unmindful of the importance of private sector records. At the same time as he expanded the public sector records program, he ensured that private records also continued to flow into the archives in great volumes.

This dual mandate for public and private records acquisition became a distinguishing feature of the state funded archives in Canada. In 1972 Dominion Archivist Wilfred Smith celebrated the success of the total archives approach and actually coined the term "total archives". The concept of total archives is a Canadian contribution to archival practice which "advocates the acquisition of all types of archival records from private and public sources, for the purposes of documenting all facets of Canadian history."[23]

According to Laura Millar, the history of total archives in Canada entered a new phase in the early 1980s which continues to this day. It has "brought the world of archives into the information world of the late twentieth century."[24] Millar suggests that this third era of archival development is distinguished by the impact

of computerized communications and has archivists "debating the very purpose of their work and the very nature of the materials they acquire and preserve."[25]

Since the 1980s, archivists have been trying to make progress in the management of electronic records. As communications technology has changed rapidly, archivists are faced with an explosion of records in electronic form and the resulting complex archival challenges. Archives face great pressure to address the problems presented by the electronic records of their sponsors. To deal with the new demands on the National Archives, a new National Archives of Canada Act was passed in 1987. It stated that a record includes

> ... any correspondence, memorandum, book, plan, map, drawing, diagram, pictorial or graphic work, photograph, film, microform, sound recording, videotape, machine readable records, and any other documentary material, regardless of physical form or characteristics and any copy thereof.[26]

This ensured that computerized records were included among those the archives should control. The National Archives Act also followed in the footsteps of visionaries like Brymner and Doughty and maintained the total archives concept. However, while archivists at the National Archives have authority to acquire computerized records of public and private origin under the National Archives Act, the major new problem is how do they do so? Other Canadian government archives in the total archives tradition face the same problem.

It was in this atmosphere that Canadian archivists began to pull to the forefront of archival theory. One of the leaders who brought invaluable knowledge and insight to discussion of the future of archives was Hugh Taylor.

Taylor was aware that information and the way it was managed were about to undergo radical changes due to rapidly expanding technologies. He advocated the education of archivists to ensure the cultivation of quite different abilities from those they had previously required. He wrote that archivists should "be thoroughly equipped ... with a knowledge of automation, communication theory, records management, diplomatics, and the use of records in administration—a vast and little-explored intellectual field with historical dimensions of great importance."[27]

Taylor's work encouraged archivists to embrace what has been called a "rediscovery of provenance."[28] Essentially, provenance is the context of the record, as opposed to merely the information the record provides. Tom Nesmith explains the provenance of a record as, "a long, complex, multifaceted *process*, with no definitive or straightforward beginning, and *no* end as long as the record survives."[29] Using provenance, archivists may be able to determine the value of a record, regardless of its medium. Thus, the physical aspects of a record are no longer a basis for determining value or importance. As Cook has stated, the "Canadian reinterpretation of provenance makes that principle more conceptual than physical, as is appropriate for the age of the electronic record."[30]

This rediscovery of provenance has had "three major results in Canada that have drawn widespread international attention and praise," according to Cook.[31] These are: the "macroappraisal acquisition strategy" implemented at the National Archives, which is a functions-centred, multi-media, provenance-centred approach to records; the development of descriptive standards that feature a

provenance-centred archival fonds instead of Schellenberg's record group; and the development of graduate-level archival education programmes.[32] Cook also lists several other uniquely Canadian archival traditions that are praised throughout the international archives community. These include: total archives, a different view of context and provenance, a focus on media, a revival of diplomatics, the social context of archives, a postmodern analysis of archives, and a cooperative national network of archival organizations.[33]

By using provenance as the base for all further archival research, Canadian archivists are greatly expanding the intellectualism of their profession, while also providing a possible solution to the burgeoning electronic dilemmas created by increased technologies. When archivists focus on the context of the record's creation they are transcending the physical boundaries of the document. By focusing on the functions of records and records creation, they are asserting that the actual physical document is of lesser importance. Because electronic records are virtual rather than physical, a provenance-based approach to their study offers a solution to some archival problems.

While some archivists have argued that this approach means a shift away from the historical view of archives, Cook states that this is not true. He writes that archivists must have a solid background in history, for "without such skill, knowledge, and thus archival understanding of the history and nature of records, the level of archival acquisition, selection, arrangement, description, and public service would be woefully superficial."[34]

The Canadian total archives system has provided a solid foundation for both electronic and private records. Archivists in Canada have been committed to acquiring records in all forms of media, from all sources, for well over a century. However, one aspect of Canadian collecting policy is lacking, and that is addressing personal records in electronic form. These types of records are increasing daily, and archivists, for the most part, appear not to have taken many steps to determine how to preserve these records for future use.

Indeed, the acquisition of private records in any form is rapidly declining in Canada, and is also one of the features of the contemporary total archives Millar notes. Millar suggests a reason for the decline in private records acquisition:

> The ephemeral nature of electronic information has prompted archives to concentrate more on the care of current records and the establishment of record-keeping systems and less on the acquisition of non-sponsor records or the preservation of electronic records from external sources.[35]

Archivists are too busy trying to ensure that the growing volume of their sponsoring institution's own records are managed properly, and they do not have the time or the resources to pursue private electronic records.

As is articulated in the following chapters, personal records, electronic records and especially personal electronic records can no longer be ignored or pushed to the wayside. The study of personal records offers much to round out the history of Canada. It has always been a mandate of the government sponsored archival programs to acquire and preserve personal records,

regardless of their medium. No other institutions, whether libraries, museums, or galleries, have stepped forward to offer to replace the role of archives in this area. New technologies have produced records that are harder to capture in traditional forms, but personal records archivists must be willing to embrace new ways of capturing these records for posterity. The Canadian archival tradition of total archives provides a clear directive for the acquisition of such records. It is now up to society, led by archivists, archival institutions and their sponsors, and users of archives, to find means of ensuring that this key feature of our documentary heritage, now in electronic form, continues to be preserved.

## Endnotes

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**CHAPTER TWO**

**ARCHIVES AND ELECTRONIC RECORDS THEORY: IS THERE A PLACE FOR PERSONAL RECORDS?**

The emergence of electronic records marks a crucial turning point for archivists and archival theory. This new medium has fundamentally changed the way that archivists view records, yet beyond haggling long and loud in theoretical debates, little has been done to determine the best course of action in dealing with this new medium. As well, the debate that has occurred has centred on public or government records, leaving the private, personal side largely overlooked. There is much that the personal records archivist can learn from these recent discussions of institutional records, but it is time for this aspect of archives to begin to cope with its own realities, and come up with its own solutions to the problems electronic records bring with them.

This chapter will take a detailed look at the theory and debate in the institutional records field. It will show that, while there is a lot of data that can be taken over to the private records side, the very nature of the debates surrounding institutional electronic records proves damaging and exclusionary to private records archives. Finally, there will be a discussion of the ideas and work of two archivists, Adrian Cunningham and Lucie Paquet, who have addressed the issue of personal electronic records and who have urged the wider archival community to engage this issue more seriously.

In 1992 the Association of Canadian Archivists (ACA) Select Committee on Electronic Records sent out a survey to all of its members in the hope of

raising issues and problems relating to electronic records. The results of this survey, published in 1993, show a community unprepared to cope with the onslaught of this technology and unsure of where electronic records would be taking the profession over the next several years.[1] Many respondents stated that their own institution had no plan to pursue a mandate to handle electronic records and that their staff had no training in dealing with electronic records. It was felt that changing technology was the biggest challenge faced by Canadian archivists, and that training and resources were the most important tools they would need in order to address the issue.[2] While this survey caused many archivists to think about the impact of electronic records on their profession, it has yet to lead to concrete results in dealing with the medium. It does show, though, that Canadian archivists have long been aware of and worried about the technology that is shaking the foundation of their profession.

The electronic age has caused archivists to reflect on how they will have to change in order to cope with the emerging technologies. John McDonald, formerly of the National Archives of Canada, points out:

> We have learned that such information can be lost because of the fragility of the media, the lack of sufficient contextual information, its dependency on technology which can change over time, and the lack of assigned accountability. These factors have caused archivists to re-examine the ways in which they operate....[3]

Many archivists are heeding this warning, and are urging others to do likewise. Terry Cook, a Canadian archival consultant and professor, states that "archivists

can no longer afford to be, nor be perceived to be, custodians in an electronic world."[4] Cook suggests that archivists must focus more on the context behind records-creation than on the physical object itself, as in many cases there will only be a virtual record.[5] It is lucky for the profession that there are theorists like Cook, as he can see a silver lining in the cloud of electronic records. He believes that archivists, with a little effort and a large change in perception, may be able to,

> Reclaim our heritage...and become again central players in the world of both corporate memory and documentary heritage. To do so, however, we must stop being custodians of things and start being purveyors of concepts.[6]

Richard Kesner agrees with Cook, stating that "if we do not change the way we view the purpose and nature of our performance...I expect that before too long we will be relegated to the antiquarian curatorial role that we have heretofore rejected...."[7]

Clearly, the role that archivists play in the new information age is still open for debate. While some, like Kesner, feel that the time for traditional archiving is over, others are more concerned with how to cope with electronic records, rather than their role as an archivist. Catherine Bailey, a Canadian archivist, has suggested that the prevailing archival theory does not need to be revised for electronic records. Archivists will be able to treat electronic records in the same way they treat other media, by assessing their "administrative, legal, evidential,

and informational values within the context of the record-keeping system in which they were created."[8]

Bernadine Dodge, also a Canadian, has examined the societal impact of changing technology, as well, and she has written that "the production of electronic information radically alters traditional notions of time, community, and history, while simultaneously blurring the distinction between reality and image."[9] However, Dodge believes that archivists can play a role in this new society by suggesting meanings, anchoring texts, and restoring boundaries, both temporal and spatial, to an increasingly incoherent and undelineated world.[10]

Beyond changing theoretical views about themselves, archivists have also had to deal with generational changes. Cook argues that electronic records archivists are currently in their second generation. The first generation took place in the 1970s and 1980s, when electronic records first began appearing in archival institutions. These records are identifiable in that they were generally backed up on paper printouts, they were linked to the library world, they were mainly used for census and survey, and they were a one shot, static form used for their informational content.[11] These first records were software dependent and extremely user unfriendly. Data archivists were able to deal with the records on their own, and all electronic records went to archival repositories.[12]

In contrast, the second generation of electronic records archivists deal with much more complex issues. Paper backups of the records are not seen as necessary. In fact, many believe that it would no longer be the original record once it has changed medium. As well, the new records are produced on

personal workstations, are used for all functions in all media, and are used for

their evidential, as opposed to informational, value.[13]  The archivist must now

form partnerships with computer specialists in order to keep up with the changing

formats and technologies.  Kesner even suggests that archivists "must cease to

act as archivists in the traditional sense; we must become information

specialists."[14]

Archivists and archival institutions are also examining the preservation of

electronic records.  The National Archives of New Zealand has come up with an

electronic records policy that addresses preservation. Under their problem

section, they state that,

> Electronic records are by contrast [to paper] unstable
> and require active management during their lifetime to
> ensure their survival.  Furthermore, *the archival*
> *nature of all electronic media is either non-existent or*
> *unproven.* Even if their stability could be assured
> however, problems of hardware and software
> incompatibility may well make the information they
> carry inaccessible.  Constant and increasingly
> frequent technological advances in software and
> hardware design give rise to incompatibility across
> time as well as type, and this will continue for the
> foreseeable future.[15]

This is a grim outlook indeed, but the National Archives has managed to

come up with some solutions for the preservation of electronic records.  They

have stated that depending on the circumstances, the National Archives will,

"require transfer to another, more stable format such as paper or microfilm; allow

transfer in electronic form in a number of specified formats; agree to the retention

of electronic archives 'in-house'."[16]  This does not necessarily seem like a viable

option, however, as it focuses on creating a more stable medium. By changing the electronic records to a paper format, there is much contextual information that can be lost. But this still seems to be a prevailing attitude among archivists who are treating electronic records with their "paper minds". As late as 1986, John Mallinson suggested that the only way to preserve electronic records for the future was to transfer them to microfilm.[17] Luckily, there are archivists in increasing numbers who are beginning to state that the only way to preserve electronic records is to keep them in electronic form and to continually update them to the newer forms of technology that appear.[18]

In trying to determine the best course of action, some archivists have suggested that archivists should team up with records managers in order to handle electronic records. Richard Cox believes that the "split—organizational, philosophical, and professional—between archivists and records mangers is a serious deterrent to the possibility of achieving success in the administration of electronic records and recordkeeping systems."[19] Charles Dollar agrees with Cox, and feels that archivists and records managers need to come together if they want to ensure that electronic records are being adequately cared for. Dollar suggests that

> The critical issue for archivists and records managers
> is ensuring that international standards address three
> crucial information-handling requirements:
> maintaining records integrity, incorporating records
> disposition into information system application design,
> and facilitating access over time.[20]

Other archivists are trying to look at more practical aspects of dealing with electronic records, including research in the areas of custody, description, preservation, and accessibility. Kenneth Thibodeau would prefer to see archival records remain in the custody of archival repositories. He suggests that records need to be kept "in an environment in which there are adequate controls to guarantee that the records will be preserved and that they will not be altered. Without such an environment, it might be possible to preserve all of the information in the records, but lose all the records."[21] On the other hand, David Bearman makes the case against custody of electronic records. He suggests that the acquisition of records in an archival repository actually, "gets in the way of achieving archival objectives and that this dysfunction will increase dramatically with the spread of electronic communications."[22] Bearman argues that due to organizational, professional, economic and societal factors it is more important that archivists acquire intellectual control over records as opposed to physical control.[23] It should be noted here that both Thibodeau and Bearman define a record as something created during a business transaction. Neither of them are speaking of personal records when they are discussing electronic records and custody.

Many institutions and archivists are grappling with the issue of custody and how to capture records in a post-custodial world.[24] The National Archives of Canada has already come up with a policy on leaving records with their creating institution.[25] However, Adrian Cunningham has suggested that,

Once good electronic recordkeeping practices become accepted and established (this is in fact our major challenge), then custody becomes a non issue. The real issues are archival control, the management of access and use, and the ongoing preservation of records of continuing value through migration and/or emulation.[26]

Beyond examining various aspects of archiving, archivists have also engaged in several full scale electronic recordkeeping projects. These projects were created in an attempt to develop "theoretical and practicable models to confront the intersection of technology and the management of records and information."[27] The two best known projects are centred at the University of Pittsburgh and the University of British Columbia. The University of British Columbia project is known as the International Research on Permanent Authentic Records in Electronic Systems (InterPARES) Project. It brings together "archival scholars, computer engineering scholars, national archival institutions and private industry representatives" in an attempt to develop the "theoretical and methodological knowledge required for the permanent preservation of authentic records created in electronic systems."[28] This approach suggests that the theories and methodologies "must be centred on the nature and meaning of the record itself. Despite the new media and formats of electronic records, the integral components which identify and authenticate a record have not changed from the perspective of archival science."[29]

The University of Pittsburgh Project, on the other hand, was created in an attempt to "explicitly define what requirements must be met by record-keeping systems so that the archivists can intervene in organizational policy, systems

design, and program implementation to ensure the creation of records, preserve their integrity and provide for access." Pittsburgh suggests that a record is evidence of an institutional business transaction, which "encourages archivists to look not just at the content of the records, but also the context of their creation and their structure."[30] By implying that a record is an institutional "business transaction", however, Pittsburgh, like UBC, effectively cuts personal records out of the study.

There are many differences between the two projects. While Pittsburgh suggests that there will be different degrees of record keeping requirements for different types of institutions, InterPARES promotes one universal approach; for Pittsburgh the key goal is adequate evidence for the purposes required, while for InterPARES it is protecting to the maximum the integrity of all records.[31] As well, as mentioned before, Pittsburgh has a narrow definition of records as business transactions, while InterPARES believes that records can involve any creator or human activity, can be contained in any medium, and that records are products, not merely transactions; for Pittsburgh the overall focus is records management, while for InterPARES the focus is archival.[32] Finally, Pittsburgh offers a non-custodial, virtual archives approach, and considers migration of records to be automatic. InterPARES believes that records must be in archival custody, that migration can destroy the context of a records and therefore must be done by archivists in archival institutions.[33]

There are also archivists studying the records themselves, trying to determine the best way to perform traditional archival functions like description

and preservation on the new and ever-changing medium. Margaret Hedstrom

suggests that "In the electronic environment, the physical manifestation of a

record, if relevant at all, is secondary to its logical organization and its

relationship to the context in which it was created and used."[34] Hedstrom

believes that

> Successful descriptive practices for archival records
> must incorporate archival descriptive practices into
> the design of information systems, so that archival
> description can exploit the rich descriptive information
> that is an integral part of many electronic records
> systems. To accomplish this, the archival profession
> must articulate its requirements clearly and
> convincingly to records creators and the designers of
> record-keeping systems....[35]

There is also movement afoot to encourage descriptive standards for

electronic records in archives. One of the newest standards is called Encoded

Archival Description (EAD). This is a standard that is based on two computer

languages, Standard Generalized Markup Language (SGML), and Extended

Markup Language (XML). It is thought that "as archives increasingly employ

computer and network technology to create and maintain essential, valuable

information, they need reasonable assurance that the information they create will

endure rapid changes in hardware and software."[36] This is the basis behind

EAD, and it is thought that it will also enable archivists and users to have,

"universal, union access to primary resources."[37] It is also thought that through

the use of descriptive systems such as EAD, it will be possible for collections

related by provenance but dispersed in various archives to be virtually reintegrated.[38]

Margaret Hedstrom has also examined the accessibility of electronic records in archives for users. She suggests that little has been done "to address the ultimate question of who will use electronic records and how users will gain access to them."[39] Hedstrom believes that we need to develop strategies that will deal with the questions of access to virtual records. She believes that with the rise in remote access to archives, through the use of the Internet, there will be a diminished role for central repositories. But she also suggests that this remote access will "heighten the need for leadership and coordination from the archival community."[40] Hedstrom feels that in order to provide continuing access to electronic records, archivists must first re-examine the purpose for creating archives in the first place. She believes that "our actions should be guided by a series of questions about our goals."[41] Only through determining the purpose of archives and examining the changing technologies will archivists be able to provide meaningful access to electronic records.

What projects like the University of Pittsburgh and InterPARES and almost all of the other studies regarding archives and electronic records have in common is the fact that all of them deal with institutional electronic records. The personal side of electronic records has been virtually ignored. Wading through the vast amounts of literature on electronic records, it appears that there is little place for personal records in the new electronic records universe. Even worse, archivists are making no apologies for excluding personal electronic records from

their discussions, indeed some probably have not even realized that they have done it.

Despite this appalling lack of concern for personal electronic records, archivists who are concerned about the private side of archives will still be able to employ some aspects of this research into institutional electronic records. To an extent, the main problem is the archiving of electronic records, not necessarily what is stored on the records. As a result, personal records archivists will be able to develop means to acquire, preserve and access personal electronic records in part through studying the available research on electronic records. However, given the strong institutional records orientation of this research, personal records archivists should also pursue strategies which address their distinctive concerns.

The number of archivists who have addressed the archiving of personal electronic records in a public forum can easily be counted on one hand. This is astounding when one considers the number of archivists who are grappling with electronic records in general. In the archives world, there are only two people who have been highly visible in taking up the matter of personal electronic records. In 1994 Adrian Cunningham, an Australian archivist currently with the National Archives of Australia, published the first major article to deal with personal electronic records. It was meant to foster discussion of the topic and to prompt other archivists to begin work on solutions to the problems Cunningham outlines. Cunningham first remarks that technological change has not left private records behind. He suggests that

> The plethora of personal recordkeeping software packages, covering everything from domestic budgeting through electronic mail managers to electronic notebooks and diaries, is indicative of the revolution that is taking place behind the closed doors of suburbia.[42]

Cunningham argues that most archival repositories still tend to transfer any personal electronic records they encounter to paper, a medium that collecting archivists feel more comfortable with.[43] He maintains, however, that archivists who collect personal records are beginning to realize that they must "grasp the nettle and commence the preservation of records in electronic form."[44]

The greatest problem facing personal records archivists right now is that the usual time for acquiring a donor's records is near the end of the donor's main contributions to society, or even after the death of the donor. With the problems inherent with electronic records, including rapid technological changes, encrypted records, and the donor's lack of knowledge about the importance of the records, archivists who continue to acquire in the same fashion as they do for traditional records will undoubtedly find themselves with records that they cannot read due to changing technology, or records that were not saved at all, because the donor did not realize that they may be important. Cunningham suggests:

> The advent of electronic recordkeeping systems means that personal records archivists can no longer accept this situation. For exactly the same reasons that other archivists are becoming more active in the pre-custodial phase, so must personal records archivists. This requires a shift from the policy of targeting donors towards the end of their active

> working life to a strategy of approaching them at the
> earliest possible time after it becomes clear from their
> achievements and activities that their records are
> worthy of preservation.[45]

By becoming involved early in the donor's creating life, archivists would ensure that the donor could be kept up to date with new recordkeeping techniques and migration to new formats that would then ensure that the electronic records created would remain both updated and accessible. The archivist would build a long-term relationship with the donor. This would be a new way of approaching the acquisition of personal records, and while some may worry about the impact that archivists may have on the creation of records, it is the only way to ensure that there are any records left to be acquired.[46]

Cunningham is also adamant that personal records that are acquired in electronic form remain in electronic form. This is to ensure that the records lose none of their context through conversion.[47] By keeping electronic records in their original form, archivists are going to have to form partnerships with computer specialists as well as become more computer literate themselves. Cunningham suggests that "Clearly the professional education of archivists needs to be recast to incorporate a substantial component of computer studies," and that for practicing archivists, continuing computer education will be necessary.[48]

Finally, Cunningham remarks that preserving electronic records in their original format will mean nothing if researchers are not able to access them. Cunningham call for "both the provision of terminals in reading rooms and the

provision of training in the use of standardised formats and systems for the researchers."[49]

Since Cunningham's revolutionary 1994 article, only four other articles have been published on the importance of examining personal electronic records. In 1997 American archivists Tom Hyry and Rachel Onuf published an article that examines how personal records archivists must adapt to the changing media. They argue that "new communications media offer increased opportunities to document the lives of individuals as we exist outside of organizational functions, but that archivists will need to consider broader societal implications of these innovations before collecting these materials."[50] While the authors disagree with Cunningham's suggestion about creating relationships with donors, they do believe that archivists need to "educate the public, both on how to manage their personal records, regardless of format, and on the broader issues surrounding the emergence of electronic media of communication."[51]

Cunningham returned to print in 1999 to note that very little had yet been done to deal with the challenge of personal electronic records. Indeed, Cunningham laments that "While other studies on electronic records published at that time have since been swamped by a tidal wave of new literature, my 1994 article has been joined by only one other article on the same topic in the intervening period."[52] Most of Cunningham's 1999 article focuses on his view that archivists should be involved in prompting and shaping the creation of personal records, contrary to Hyry and Onuf. Cunningham believes that becoming involved early in the process of records creation is necessary in order

to ensure that an intelligble, accessible record will survive.[53]  He argues that there are a number of strategies which may be employed to try to do so:

> Pre-custodial intervention can encompass a range of activities.  It might include the production of guidelines on record keeping targeted at particular groups of personal records creators such as scientists and creative writers.  It might also include working with software developers and vendors to encourage the incorporation of good record-keeping functionality and self-documenting features in the desktop authoring application favoured by personal records creators.[54]

Another objection to Cunningham's approach is that if archivists are involved in the creation of the record, they will cause the record to be quite different from what it would have otherwise been, because of the author's new self-consciousness about its creation.  Cunningham suggests that by looking at the record through the entire context of its creation, the record will still contain valuable evidence and that it will simply be a different type of evidence.[55] Cunningham believes that

> The advent of electronic records presents us with a golden opportunity to improve both our societal record-keeping practices and our professional documentation outcomes.  To do this properly we need to conduct more research into the dynamics of personal record keeping, the societal warrants for personal record keeping, and the functional requirements for evidence in personal record keeping.[56]

Only Lucie Paquet, an archivist at the National Archives of Canada, has been as vigorously involved as Cunningham in the discussion of personal

electronic records. Paquet works in the Manuscript Division, which deals with the personal records of Canadians. Paquet has recently published two articles on the topic, one is a chapter in a forthcoming book, and the other is an article based on the chapter.

Paquet states that archivists must be made aware of how large a role personal computing and the Internet now play in individual life. She writes that "Archivists cannot ignore this phenomenon without prejudicing their effectiveness and their mission."[57] She also suggests that private electronic archives can only survive if "archivists…are willing to become actively involved and if they agree to make major changes in working methods and commit the human and financial resources needed to ensure the integrity and preservation of electronic records."[58]

Paquet then looks at the archiving of personal electronic records from a practical point of view. She states that, due to the 1995 study of personal electronic records at the National Archives, the institution has "developed and approved policies, procedures and tools that make it possible to acquire and process electronic records so that archivists can work with them."[59] Paquet considers the acquisition of personal electronic records in two ways due to the various changes in technology. First, she advocates a, "proactive approach for recently-created records, characterised by their diversity, by the increase in the quantity of software and electronic formats, and by the integration or interconnection of equipment."[60] The other approach is more passive, and Paquet uses this approach when dealing with records from the early eras of

technology, generally saved on diskettes that are no longer readable with today's technology.[61] Paquet remarks that when she tells donors that the National Archives of Canada has developed a system whereby their seemingly obsolete records can be converted to newer formats, the donors are extremely happy. They are more willing to trust Paquet and they "agree more readily to her recommendations about managing and saving the files stored on their present computers."[62]

The National Archives of Canada has several procedures to follow when acquiring personal electronic records. First, archivists follow the interventionist approach advocated by Cunningham, by getting involved with the donors while they are still actively creating. Once it has been determined that there are electronic records in a collection, the archivists inform technicians from the computer services division. Archivists can either bring the electronic records to the archives, or they can use an external disk drive at the donor's home in order to convert the records to a standard language and bring them to the archives. This, of course, requires further education, and Paquet remarks that "almost all archivists have taken a specialised course to learn how to connect this kind of external drive to a computer...and copy files onto zip disks in order to bring personal records back to the National Archives of Canada."[63]

Archivists and technicians then evaluate the computer equipment used by the donor. After processing and documenting all of the electronic information that has come from the donor, the archivist gives the records to technicians so that they can convert the old files onto new formats. This conversion work,

Paquet says, "must be done in consultation with the archivist in order to preserve as many of the archival details of the records as possible…with the resources at their disposal."[64] Once the records have been converted, they are returned to the archivist so that they can continue with archival processing.[65]

When the final archival processing is done, the technician is called back to create two preservation copies of the records: "The first copy is produced on an 8mm exabyte magnetic tape and the second copy on Digital Linear Magnetic Tape. These are kept permanently in storage at two different locations. The content of each tape will be migrated every ten years onto new physical formats."[66]

Paquet is optimistic about the future of personal electronic records. The National Archives is trying to find solutions to acquisition and preservation problems. Paquet believes, like Cunningham, that personal records archivists need to begin addressing problems now if they want to continue to have records in their archives in the next several decades. Possible solutions to these problems lie in the active involvement of archivists in the creation of electronic records, more training in computer technology for archivists, and the establishment of guidelines and specifications of computer software that will enable good recordkeeping capabilities.[67]

Personal records are an integral part of the archival record. They bring a humanity to our past that could often be missing if one relied only on government and institutional private records. Personal records archivists need to begin to find the solutions that work for them and for the records, in order to ensure that

study of the personal side of the history of humanity is not seriously impaired for future generations of researchers. It is possible to use some of the ideas developed by institutional electronic records archivists, but personal records also need their own strategies and methods if they are to remain a viable source of history for the researcher. Personal records archivists need to pay closer attention to archivists such as Cunningham and Paquet, in order to expand on their ideas and to help come up with the solutions they need.

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# CHAPTER THREE

# PAST, PRESENT AND FUTURE: TRENDS IN PERSONAL COMMUNICATIONS TECHNOLOGY

The twentieth century has been one of rapid change. It has seen everything from the invention of the automobile to the space shuttle within a few short decades. Humankind seems bent on upgrading its technological capabilities. Computers are a striking example of this trend. The once cumbersome military computing machines that filled an entire room in the 1940s have evolved into the portable personal computer. And personal computing devices are being upgraded as quickly as consumers can adapt to them. One only has to wait a month or two before some stronger, faster, and "improved" version puts the present computer out of favour with consumers. Michael Hyde, Professor of Communication Ethics at Wake Forest University in Winston-Salem, North Carolina, has suggested that

> The information age, with its ongoing communications and computer revolution, has placed us in an unprecedented state of 'hyperness.' .... If this is the way, as they say, 'it was meant to be,' then perhaps keeping up with constant change is less of an option than a necessity. We are destined to hear and respond to the call of technology. And the quicker the better, especially if you hope to survive in a climate that may just well be a stage in the evolutionary struggle of 'survival of the fittest.' [1]

Technology has also greatly affected how people communicate. Time and distance are no longer factors in personal communication. People are now used

to being in instantaneous communication with others, whether on the telephone or with newer technologies such as electronic mail (e-mail). Gone are the days when a letter took several months to cross the Atlantic to reach loved ones back home. People increasingly expect each other to be available at the touch of a button. Telephones have even become portable, so there is less reason to be out of touch. James W. Chesebro, Professor of Communication at Indiana State University has suggested that

> A new set of communication systems, based on the 'new technologies,' has emerged. These new communication systems are animated by electronics, computers, and sophisticated telecommunication technologies which are capable of linking culturally diverse and geographically removed sources and receivers into far more interactive systems.[2]

New technology has blown apart traditional concepts of time and space, and has changed how, when and with whom people communicate. While borders have been broadened or erased, the impact of these changes on the archival record has been profound. As Walter Benjamin, a theorist with great foresight, wrote in the 1930s, there is a "desire of contemporary masses to bring things 'closer' spatially and humanly, which is just as ardent as their bent toward overcoming the uniqueness of every reality by accepting its reproduction."[3] With the advent of computer technology especially, the concept of the original is blurred. With virtual records, many of which will never assume the form of a traditional textual medium, where is the original, does it exist, and how does an

archivist capture it for posterity? These are questions that personal records archivists must begin to answer before a massive loss of documents occurs.

This chapter will first provide a brief history of human communication. It will examine orality, the written word, the onset of the telephone and the rise of the computer in an attempt to show how communication technology has caused archivists to rethink how they approach personal records. Following this, there will be a discussion of how the Internet is providing yet more ways to communicate and store information, and how archivists will need to understand the characteristics of this new medium before they can capture what is being created with it.

For thousands of years, people have communicated through the spoken word. Before widespread literacy, historical information was generally passed down through word of mouth, from generation to generation. This form of communication can still be seen today in every society. Among scholars and anthropologists there has been increasing concern about capturing the memories of the remaining oral cultures for posterity.[4] This rise in the preservation of oral history has led to various concerns for archivists about how best to capture such records for the future. Even the recording of an oral history takes much away from the originality of the spoken medium. Freda Ahenakew, Associate Professor of Native Studies at the University of Manitoba, writes:

> There is, of course, much that cannot be saved in the
> transfer from spoken performance to printed page.
> Even an audio-recording already lacks the facial
> expressions, the gestures, the body language, and no
> written representation of more than a few sentences

has yet been able to capture the rise and fall in pitch
and volume, the deliberate changes in size of oral
cavity, in timbre, in the tone of voice, etc. A speaker's
mode of presentation is in part culturally determined
but to a significant degree it is also a matter of
individual personality and style.[5]

Because the impression of an account created by the taped oral history
may be different from that left by the unrecorded oral version, archivists must
work to ensure that these often subtle changes are understood so that the best
possible interpretation can be placed on the history. This careful presentation of
recorded oral history can provide great insights into the study of society.
However, there are many technical issues that archivists must also consider:

Since oral history involves various formats,
specialized storage and care is needed for each
format. Videotape life is estimated at 15 years. Film
has a life span of 50-100 years. Transcripts can
yellow and fade. Tapes are prone to fungus attacks;
in general sound recordings require constant care as
they will deteriorate if not played. CDs, digital
audiotapes, reel-to-reel....the lists of formats is ever-
increasing. Librarians and archivists must keep on
top of these individual needs or risk losing parts of
their collections; it is essential that temperature,
storage container, handling, replacement, use, and
other needs are known and addressed for each
specific format.[6]

This interest in capturing society's oldest form of personal communication
with the latest technologies paradoxically points to the technical challenges
related to the massive changes that archives are dealing with in the electronic
age. However, for the most part, archives, and personal records archivists in

particular, are not heavily involved in securing oral histories and are still preoccupied with the traditional paper form of personal records.

Denise Schmandt-Besserat, Professor of Art and Middle Eastern Studies at the University of Texas at Austin, suggests that "economic, social and conceptual changes" in Sumer from 8000 B.C. to 3200 B.C. led to the development and refinement of the clay token, which was the precursor to writing with clay tablets.[7] Harold Innis has suggested that it was due to Egypt's change from an absolute monarchy to a more democratic organization that papyrus took succeeded stone as a means of communication.[8] Both of these writers have argued that changes in the way a particular society functioned led to the need for written communication. These changes generally were from a more simple way of life to a complex one that involved increasingly abstract means of representing the world around them.

The development of these more complex ways of communicating meant that large amounts of information could be stored and retrieved. As David Crowley, Professor of Communication at McGill University, and Paul Heyer, Professor of Communication Studies at Wilfrid Laurier University have written, writing "enabled the civilizations employing it to achieve a size and complexity previously unparalleled."[9] These early written symbols represented only ideas and objects, not the sounds of spoken language. Thus ancient writing prior to the phonetic alphabet was highly complex and cumbersome to use.

With the advent in the West around 1000 B.C. of simpler forms of writing using the phonetic alphabet and, centuries later, the wide spread of mass literacy

and written records, personal communication took a new direction. Instead of relying on oral communication, people could write what they were thinking. This enabled them to create personal letters that could be sent to far-flung family and friends, thus decreasing the importance that distance had earlier played in communication.

Howard Anderson, Professor of English at Michigan State University, and Irvin Ehrenpreis, a Professor at the University of Virginia, writing of Europe in the eighteenth century as the "great age of the personal letter,"[10] suggest personal letters permit an intriguing look into the writers' lives, as people are often most open and revealing when writing to confidants. Anderson and Ehrenpreis also suggest that, for some writers, the personal letter is "an absorptive pad for their intellectual perspirations; a fever of observation, reaction, and self-analysis in them seems to underlie even their best anecdotes."[11] It is from these freely expressed writings that researchers are able to gain a better view of the life of the author. The advent of letter writing also changed the study of history. Finley Hooper, Professor of History at Wayne State University, and Matthew Schwartz, also of Wayne State, have written that we come to know about long dead societies because of the letters written by their inhabitants.[12] This is still true for society today. Personal letters are studied in order to obtain a more well-rounded view of history. Personal letters provide the insights into human experience and motivation that government and institutional documents often lack.

Crowley and Heyer have stated that with the electrical revolution "the telegraph and telephone became the first wave of a new communications revolution."[13] For the first time, "messages could travel faster than the messenger."[14] John R. Pierce, famed engineer for Bell Telephone Laboratories, who won the American National Medal of Science in 1963 for pioneering work that led to world-wide radio communication using artificial earth satellites, writes that "the telephone's power is not that of an idea, a creed or an ideology; it is the power of science and technology to enlarge a man's life."[15] What written communication did for distance, electric communication has done for time.

Robert V. Bruce, Professor of History at Boston University, states that the Industrial Revolution led to the communication revolution of the last half of the nineteenth century.[16] He suggests that the invention of the telephone was "almost inevitable," given the work that was being done by many individual inventors to improve the speed of communication and the rapid advances in science.[17] Bruce also states that for many people, the invention of the telephone is seen as "the symbol of the communications revolution."[18] Jerome B. Wiesner, late Professor of Electrical Engineering at MIT, agreed with Bruce in his comments on the uniqueness and timeliness of the invention: "Consider its very special properties. It operates in real time, it provides two-way communications and it is, in principle, designed to interconnect all subscribers. It couples distant minds by a strand of wire."[19]

The invention of the telephone and the ease of communication which it allowed enhanced oral communication. Rather than relying on letters, one could

pick up the phone and have instant communication with the desired correspondent. This ease of communication, however, has created problems in the archival world. While people are now in frequent and instant contact with each other, they no longer leave behind as full a written record of their activities. What once may have been written down in a letter for posterity is now lost along electric cables. Henry M. Boettinger, Director of Corporate Planning at AT&T, has written that "the return to oral discourse ... and neglect of written modes has caused a melancholy decline in personal letter-writing skills and volume."[20] This then erodes the quality of personal records in archives.

As well, there is a gendered aspect to the use of the telephone. Claude Fischer remarks that the stereotype of women spending more time on the phone than men happens to be true.[21] According to several studies outlined by Fischer, women spend a great deal more time on the telephone than men do. For the most part, the conversations between women involve an aspect of sociability, that is, they are calling to strengthen family and social bonds.[22] Women use the telephone to ensure that relationships do not suffer and social responsibilities are met. Men often rely on the women close to them to fulfill this part of their life. Because women, already an underrepresented part of the historical landscape, tend to do much of their socializing over the telephone, there is even less information available on them in archives. This means that many of society's records of personal relationships are being lost due to "improved" technology.

The development of the computer as a personal means of communication has changed how society functions in fundamental ways. Indeed, it has been

suggested that "in ways more pervasive than we suspect, technology is now the deepest language of politics, economy, advertising, and desire."[23] Arthur Kroker, famed Canadian media theorist, suggests that "as we enter the electronic age with its instantaneous and global movement of information, we are the first human beings to live completely within the *mediated* environment of the technostructure. [24] Guo-Ming Chen, Professor of Communication Studies at the University of Rhode Island, writes that

> The world is shrinking. People of different cultural backgrounds are more interdependent than ever. The 21st century will confront the ever-shifting social, cultural, and technological challenges. Rapid development in every aspect of the 21st century will demand us to see things through others' eyes and to develop a new way of living together.[25]

It has been suggested that the communication "superhighway will provide a dramatically more complex communicative environment for individual consumers."[26] This superhighway will create changes in communication that include: hyper-realistic perception; increased interactivity; integration of communication channels; increased storage of communication history; increased descriptive capacity for complexity and detail; increased capacity for experimentation; and a greater elaboration of communication feedback loops.[27] All of these changes have archival implications, in that they ultimately change how people communicate, create, store and visualize records. Indeed, "it has been noted that a shift in the nature of communication from a content orientation ... to a concern for the form, with an emphasis on image, strategy, and patterns

of discourse has been recognized as a central feature of the information age."[28] Ronald J. Deibert, Associate Professor of Political Science at the University of Toronto, believes that "social forces whose interests match the hypermedia environment will tend to flourish, while those whose interests do not will tend to be disadvantaged."[29] This can also be related to individuals. Those who are unable to adjust to the new technologies will be left at a disadvantage, while those who embrace this technology will flourish.

People are now creating entirely electronic personal records. Thanks to technology, novels are being created, diaries are being written, and theses are being struggled over, all without leaving a conventional physical trace. With the advent of the Internet and electronic mail, people can work, rest, play, and travel without leaving the privacy of their home. Archivists need to understand that communication technology has fundamentally changed how people interact with the world around them. Their records are changing as well. Now people have computer disks and CD-ROMs instead of filing cabinets full of papers. The proliferation of electronic documents arriving in some archives is cause for concern among personal records archivists, and a few, most notably Lucie Paquet of the National Archives of Canada, are beginning to design efficient strategies for preserving the information found in these documents.

While responses are beginning to appear to the challenge of archiving electronic records, one area that has hitherto been largely overlooked by archivists is the Internet. Because the Internet is still a relatively new phenomenon, archivists have not had time to consider how best to archive the

information that is being communicated by this medium.  Deibert has suggested that the emergence of the World Wide Web has been the single most revolutionary development on the Internet, as it "permits the integration of hypertextual links and multimedia in a single platform."[30]  The development of the World Wide Web has produced a huge and daily increasing number of individuals who want to "advertise their unique personal hobbies and fetishes" by setting up a personal home page.[31]

As well, e-mail has opened new areas of communication.  Eric McLuhan, associate director of McLuhan Program International and lecturer on communications and media,  has suggested that all media have four dimensions: enhancement, reversal, obsolescence and retrieval.[32]  Applying these constants to e-mail, he concludes that e-mail enhances one-to-one contact, increases speed of access and convenience; reduces snail mail, telephone calls, visits, couriers, and formality; and retrieves chattiness, informality, and immediacy.[33]  These are aspects of computerized media that archivists must come to understand better.  There are many factors affecting  the development of a computerized society, and archivists must not forget that what is created on the Internet may be just as important as what is created with other electronic media, or even in the traditional textual media.

The Internet is now being used for every conceivable form of personal records creation.  Beyond personal Web sites, people are writing electronic diaries and journals, putting up photographs, creating family trees and memory albums, and being catered to by a wide variety of companies which have

pinpointed a market for software that will supposedly enrich an individual's memory and past. It is important for archivists to understand what records are being created, by whom and how. It is only by understanding how and why people are creating records using the Internet that archivists will be able to devise solutions for the recordkeeping and archival problems that are arising.

The next part of this chapter will examine various Internet related communications products and services that affect how people communicate and store memories. It will examine digital photography, scrapbook and memoir services, genealogical services, and experiments by a few people who have tried to live a completely 'digital existence.'

New communication technologies are rapidly saturating today's consumer market. While the personal computer (PC) has been seen as the ultimate in individual communications technology, Steve Jobs, CEO of Apple Computer Inc., suggests that its days as the only game in town are limited. He foresees the PC becoming "a 'digital hub,' used to manage the expanding world of digital gadgets that consumers are buying instead of new computers."[34] Three of these gadgets include wireless e-mail, personal organizers, and cellular phones. These technologies are able to function like mini-computers, without the inconvenience of having to remain in the same location as your desktop personal computer or of lugging around a laptop.

E-mail, whether wireless or not, is becoming the preferred way to communicate between individuals. Michael Neuman, of the Academic Computing Centre at Georgetown University, writes that at Georgetown "on the

first day of fall semester [1998], e-mail traffic matched the peak usage from the previous academic year."[35] He also writes that

> While there is as much ephemeral mail in the electronic realm as there is in our surface mail, each of us accumulates valuable postings consisting of documents of professional record, items of legal significance, or simply mementos that characterize the texture of our lives. Increasingly, then, our electronic mail systems are becoming not only a means of communication but also storage mechanisms, the electronic equivalent of file cabinets where records are organized for quick retrieval and where items of long-term significance are archived.[36]

Neuman has identified the need for much better recordkeeping systems for electronic mail. He understands that e-mail messages can be valuable and need to be preserved. He is trying to convey the message that people need to manage their personal e-mail far better than they do at present. In Australia, archivists have also begun to address the significance of e-mail:

> Much email is generated from personal computers at home. Such email is potentially part of the personal records of an individual or family, comparable to the letters and notes that form a considerable component of any manuscript collection. Whether or not long-term access to these records is preserved depends on the individual creator, or their family if the creator has died. Access to these records is more likely to be preserved if professionals (such as records managers, archivists and manuscript librarians) provide advice to the record creators about preserving access to their email.[37]

Because of the increasing awareness of e-mail as a viable and valuable record, companies are beginning to come up with programs designed to preserve

electronic mail. For example, Smart Storage Inc. is developing @CD-Rkive which is software aimed at organizations that enables individuals to place their e-mail messages on CD-ROM. This software runs on Microsoft Windows NT servers and costs less than $5000.[38]

E-mail is also now possible without the benefit of a personal computer. There are currently two companies that offer simple hand-held or counter-top devices that enable users to e-mail without a computer. These systems, Vtech Connect's e-Mail PostBox and Cidco Inc.'s MailStation, operate through the phone line. As their advertisements suggest, "Lots of people don't need a computer, but want to stay in touch with family, friends using e-mail...The systems are easy to use—just take them out of the box, plug it into the phone jack and away you go. Just type and read."[39]

Cellular phones are also becoming more like portable personal computers. America OnLine offers its services on Sprint PCS Wireless Web and AT&T Digital PocketNet. Using their cell phone, AOL users can obtain access to their e-mail, customize their news, stock quotes and weather, gain access to listings of restaurants, directions and local information, and use instant messaging.[40] In Japan, a large percentage of Internet users are accessing it through their cell phones. The phones come equipped with a regular mode, in which the phone is used as a phone, and i-mode, which turns the cell phone into a hand-held computer.[41]

Despite a slow start, Japan is now far ahead of other countries when it comes to wireless technology. Columnist Marcus Gee of the Globe and Mail

reports that "Nokia chief executive Jorma Ollila has predicted that as early as 2003, when one billion cell phones will be in use worldwide, the number of cell phones connected to the Internet will pass the number of personal computers connected."[42]

The ability to use the Internet from a cell phone became possible in February 1999 and, by March 2001, it was estimated that there would be 10 million subscribers in Japan.[43] As well, users are charged a fee for using i-mode companies. Gee points out that i-mode companies have done what few others in the world have: made a "profit from delivering content for the Internet."[44] While the Japanese are currently the world leaders in wireless technology, it is estimated that Canadians will catch up to them in the next two to three years due to the newest generation in wireless technology that is fast approaching.[45] Jeremy Depow, a senior analyst with the Yankee Group in Canada, a Brockville-based telecommunications consulting firm, suggests that the wireless technologies that are beginning to appear on the market will change the way people view cell phones. He states that cell phones will be "information devices, not just voice devices."[46]

One Canadian company is at the forefront of the wireless revolution. Research In Motion Ltd. (RIM) is a firm based in Waterloo, Ontario that specializes in hand-held communication:

> [RIM] is a leading designer, manufacturer and
> marketer of innovative wireless solutions for the
> mobile communications market. Through
> development and integration of hardware, software
> and services, RIM provides solutions for seamless

access to time-sensitive information including email, messaging, Internet and intranet-based applications.[47]

RIM's Blackberry is one of the world's leading hand-held personal organizers in terms of capability. It comes with a keyboard and has e-mailing, faxing, text-to-voice messaging capabilities, and some Web surfing ability, as well as working as a digital organizer with address book, calendar and more.[48]

Another personal organizer-turned-wireless-solution is from Palm. For the past five years, Palm technology has helped to organize people's lives. Now, as well as being an appointment organizer, address book, and memo pad, it also comes "equipped with such add-on hardware as a miniature camera and a global positioning system and map display and e-mail and network tools."[49] Bill Gates, chairman of Microsoft Corp., not to be outdone, recently announced Microsoft.NET software that "will enable people to access data from a wide array of devices, including personal computers, handheld organizers, and cell phones."[50]

None of these companies has explicitly addressed the archiving capability of these technologies. With the blending of computers, cell phones and personal organizers into these multifaceted communication devices, where do records and archives fit in? Is there sufficient memory in the new devices to enable users to maintain much information, or will limited space encourage people to delete it? Will these devices have the ability to organize documents into a recordkeeping system, or will they be able to download information to other machines in order to ensure that reliable, organized, and accessible records are kept? These are

questions that archivists should be asking and then discussing with system developers. It is only through co-operation between archivists and communication experts that we will be able to ensure that valuable records are preserved.

Another area archivists need to study is personal photography. Digital photography offers a wide array of applications that vastly change the traditional notions of photography. Omar L. Gallaga, technology reporter for the Austin American-Statesman, suggests that digital photos are "the culmination of several wants that consumers had and technological and pricing steps that are fulfilling them," including storage, Web page development, easy e-mailing, easy transport, photo editing, quality and production.[51]

Photography has come a long way in the past century and a half. It has evolved from a technical tool that only a few could master to the consumer-friendly digital technology of today. Kodak has been intimately involved in most aspects of photography's history. In 1998 George Fisher, the Chairman and CEO of Kodak, remarked on how Kodak can help the consumer make the transition from paper-based to digital-based technology.[52] In this report, Fisher outlined a strategy for helping consumers use the expanding digital technology that Kodak could offer them. Kodak's reasoning behind the marketing strategy was that it wanted to help people organize, archive, and share pictures.[53] Kodak devised a way to enable customers to transfer their film-based photographs to a Picture CD by using a scanner hooked up to a personal computer. People would be able to use the film cameras they already own, transfer the pictures to a CD,

and use their personal computers to send far-flung relatives the pictures. In an attempt to remain the only company needed by consumers for their photography, Kodak also introduced the SnapShot Photo Scanner 1 which enables consumers to scan their own photographs into their personal computers.[54]

Kodak also introduced a way to bypass all of these steps by offering consumers a digital camera. Digital cameras allow the photographer to transfer pictures directly from the camera to the computer, without having to use scanners or CDs. Kodak has also jumped on the nostalgia bandwagon by introducing its online Millennium PhotoQuilt.[55] At the PhotoQuilt Web site, people can leave a digital photograph of themselves or a loved one, as well as write a story explaining the importance of the picture. While this is an interesting phenomenon, it poses questions for archivists, such as should, and if so, how can this Web site be archived?

While digital photography may have improved the organizing, archiving and sharing of photographs, it has left archivists with a new form of media to wrestle with. Archivists need to determine how to classify, describe, and preserve photographs that are created in a digital format. Questions that arise will be ones of access, preservation, and security.

Many photography companies are now selling software or offering services that can restore or retouch photographs. Kodak sells the SnapShot digital camera, which comes with editing tools which "allow the user to easily adjust contrast and brightness, remove red-eye in one mouse click, sharpen blurry edges, and smooth scratches," as well as record their voice to narrate

slide shows.[56] Kodak also offers online services that help photographers make their pictures look like "antiques, cartoons, and more!"[57] Black's Photography offers FotoPoint Software, which helps the photographer "to organize, catalogue, edit and retouch your digital photos, complete with a wide array of special effects! Transform effects lets you smudge, warp, pinch, punch and apply other distortion effects to customize photos."[58] Corel offers consumers Custom Photo which is "easy-to-use photo-editing software [that] lets you add more than 30 fun effects to your favorite pictures and personalize your projects with over 10,000 graphics."[59]

Microsoft offers Picture It! for photographers of the digital age. Picture It! includes a mini laboratory where users can adjust their photographs digitally. There are enhanced editing capabilities that allow photographers to remove "redeye, scratches, dust, or strangers from [their] photos."[60] As well, Picture It! offers special effects that can add "3-D text, animation, sound, art, and photo strokes, or customize your projects by choosing over 100 illusions to turn your photos into fine art. Create black-and-white photos, distorted features, sharpened images, fantasy shots, head swaps, and more."[61]

Finally, PhotoWorks offers consumers "a tradition of innovation and leadership in digital and online photo service. PhotoWorks was the first to offer free scanning, online archiving and e-mail sharing services to traditional and digital camera users, and hosts the largest consumer online photo archive in the world currently with over 170 million images."[62] There are many other companies

appearing on the Internet, including Shutterfly, that also offer digital photography services.[63]

There are also companies on the Internet that offer photo restoration to valuable family heirlooms. Fountain Studio offers photo restoration as well as a digital archiving service. Once the photo has been restored, the company will place the improved image onto a CD, a Zip disk, or other recordable media at the customer's request.[64] Digital TinType Corporation offers similar services, utilizing computer restoration techniques in order to restore family photos. Along with restoration services, Digital TinType also has the ability to enhance original photos and add or take away aspects of the original.[65]

With the proliferation of digital photography, it seems that few companies are addressing issues of long-term archiving. While they use the term "archive" extensively, and may have a loose form of migration available to consumers, most companies have not seriously addressed the topic of archiving. Margie Wylie, national correspondent for Newhouse News Source, notes:

> Unlike conventional photos stuffed into shoeboxes and stashed in the closet, digital pictures won't survive benign neglect. The data that make up a digital photo can easily be lost, corrupted, or simply become obsolete and unreadable. The medium is so new that there is no tried-and-true method for preserving it for decades, much less hundreds of years....[66]

For now, experts including archivists, suggest that in order to improve the chance of preserving digital images consumers should: cull and organize, keeping only the best images and the meta-data surrounding them; print the

photos on photographic paper and store them in light-tight boxes; save images on CD-ROM; and migrate data regularly to newer forms of technology.[67]

The implications of digital photography products for archivists are tremendous. Beyond being able to capture the document in electronic form, archivists are going to have to try to find the original photograph. Is it the unaltered version, or is it the one that the consumer has created using various options? In fact, there may not even be an original in the traditional sense of the word. How, then, are archivists going to determine what digital photograph constitutes an archival record? Are any of these digitally produced photographs records? Do archivists look for the original, undistorted and unedited version of the photograph, or are the various changes to the photograph part of the provenance, and therefore of archival importance? The new ease with which people can alter photographs will cause many new problems in the archival world, and photographic and electronic records archivists will have to work together to try to come up with solutions to these problems.

As we enter the twenty-first century, many people are left feeling nostalgic about their past and wonder how to preserve their memories. They are often turning to the Internet for help. There they find hundreds of companies competing to preserve their memories. For example, there are dozens of companies devoted to instructing people on how to write their memoirs. Tombo Media will

advise, assist and manage family history projects, record stories and family history on a variety of media, digitally archive text, photographs, graphics, and A/V material, produce exquisitely printed and illustrated family histories, work with other historians,

organizations and businesses, provide technical
guidance and assure the preservation of family history
for future generations.[68]

Tombo Media appears to be one of the few companies on the Internet that is run by someone with archival expertise. Its head, Peter Farquhar was a history teacher who began working on the digital archiving of family history in 1992, when he was employed at the Oral History Office at Berkeley.[69]

At the Centre for Life Stories Preservation Web site, which is based in St. Paul, Minnesota, it is believed that everyone has a story worth telling and preserving for future generations. The Centre's mission is to "educate people about the power of life stories; empower them to celebrate and preserve their stories before they're lost and support them in accomplishing that goal through a variety of methods."[70] Other companies offering memoir writing services on the Internet include Your History, Infinite Humanity, Capturing Memories, Memoir Makers, and Populore.[71]

At FamilySpheres, the employees will create a CD-Recordable disk for consumers to preserve their family photos. As the company states:

> These [family] histories are the glue that bonds one
> generation to the previous [generation ... and] to the
> next [generation ....] The ability to store this material
> in an organized way on a compact disk and preserve
> that material virtually forever is a blessing and
> responsibility that no previous generation has
> enjoyed.[72]

The company maintains that placing your photos on CD is the best option for preservation as "the CD-R media manufacturers have performed extensive

media longevity studies using industry defined tests and mathematical modeling techniques, with results claiming longevity from 200 years to over 350 years."[73] The company does not, however, explain that with changing technologies, the CD as a form of communication may well be surpassed by new forms and, even if it is not surpassed, a CD of today may well be unreadable on future CD players within the next decade or so. While the CD will be physically preserved, the information on it will be inaccessible. FamilySpheres will digitize old photographs, color and black and white prints, slides, negatives, oil paintings, drawings and prints, and important family documents, as well as digitally restore or repair photos.[74] The staff of FamilySpheres is composed of two people, neither of whom is an archivist. One has a B.Sc. in Computer Science, and the other has a B.Sc. in Optical Engineering. The site uses the words "archive" and "preservation" extensively, but the company does not seem to have actual archival expertise.

At Digital Storybook, clients are encouraged to archive their personal documents electronically:

> Imagine turning your computer into a 'virtual time capsule,' enabling you to revisit and interact with your memories over and over again. By a simple click of the mouse, you can view highlights of your wedding and anniversaries, hear your 'special song' and reminisce. You can relive the thrill of your child's first steps, those hectic birthday parties, and momentous graduations.[75]

Digital Storybook will preserve important photos and documents on CD-ROM, which will make the records "impervious to the elements and to time

itself!"[76] While the company does mention that the client can easily update or retrieve the information, once again it does not mention changing technology or possible migration that the CD may have to undergo in the near future. As well, the company does not mention that anyone experienced in archiving is employed on its staff.

Digital Scrapbooks is another company that offers people digitized memories. It invites the client to envision a readily accessible personal digital archive:

> Imagine a way to bring new life and usefulness to your most valuable photos. Imagine a fully-interactive photo album that can also *turn its own pages-* whenever you want – to make personal use and public display equally enjoyable. Imagine durable **archival-quality storage** that actually **reverses the damage** time has done to your photographs and makes them **easy to use** on web pages or for printing. [77]

Digital Scrapbooks gives eight reasons why a digital version of the family photo album is a more sensible choice than the traditional alternative. For instance, "a regular photo album risks damage to photographs, and can't improve their quality—Digital Scrapbooks provides you with color-corrected, cropped, and enhanced photos."[78] The company also describes the sharing capabilities of a digital scrapbook, as well as the ability to make the scrapbook multimedia, by adding audio and visual information, which is not possible in a traditional album. The staff of Digital Scrapbooks boasts "over a quarter-century of photographic experience, and over fourteen years of computer experience."[79]

The company also remarks that the technology it uses is the same technology that "university libraries are using to make historic photos and documents easy to view."[80] That said, the company does not appear to have anyone with archival experience on staff.

In Canada, a company known as Memory Ink has been started that will create a bound volume of your memories. This is a more traditional form of family album, as it is in textual, rather than digital format. The company home page tells us that

> We all know people who have lived through some of the greatest changes in the Twentieth Century. They hold a treasure chest of memories. Memories Ink is dedicated to unlocking those memories. We believe in honouring the lives of people who have made a difference by preserving their stories for generations to come. We will record the experiences of that special person in your life and turn their story into a bound volume, complete with photos and other important documents. All you have to do is choose the final design.[81]

The least expensive package that a client can purchase includes a two hour meeting, a nine hour interview, a transcription of the interview, the insertion of photos and documents, a custom layout and design, and the custom bound volume for $5,350 (Canadian).[82] The most expensive package available includes a six hour meeting, a fifteen hour interview, the transcription of the interview, the insertion of photos and documents, the custom layout and the bound volume, for $10,700. If you want to add a CD-ROM to the package, the total comes to $16,050.[83] If the client is situated more than two hundred miles from Toronto,

travel fees will also be charged. The creator and operator of Memories Ink is a former journalist with no archival experience.

In addition to the Web sites that are designed to create family albums, there are also dozens of sites dedicated to genealogy. At GenealogyPortal, a service is offered that will allow the researcher to search archives and libraries for genealogical information. It states that "this search engine indexes national, state, and local archives and public, private, and academic libraries web sites."[84] FamilyTreeMaker also offers a "record lookup service" that accesses archives and other records centres. This service can search for a client's family information in: Foreign and U.S. Censuses; Genealogy Databases; Ancestral Files; Social Security records; Immigration records; Library Card Catalog Listings; the Library of Congress; Military records; Native American records; Phone/City Directories; and Foreign and U.S. Vital Statistics and Wills.[85] This type of service allows people to remain in the comfort of their own homes while someone else does the research in archives in order to find their past. At FamilyTreeMaker the client's request is sent to the Genealogy Research Associates (GRA), who then search for the information. the GRA is not required bylaw to be certified or licensed. However, they have all,

> Received professional genealogical training and are tested and credentialled by the: Family History Library's Accreditation Program; Board for Certification of Genealogists' Certification Program; Brigham Young University's Family History Bachelor of Arts Program; Hartnell College's Genealogy Associates certificate program in Library Media Technology; Monterey Peninsula College's Genealogy Associates certificate program in Library

Science; or other accreditation or certification programs.[86]

What is important to note, is that while all of the aforementioned companies blatantly use the term "archiving," none of them employ professional archivists or anyone with an archival background, although the GRA comes close. This can be considered a misrepresentation to the client. If clients see the word "archive" they would automatically assume that qualified people are taking charge of their records. While the computer and information specialists who are running these companies may be able to preserve people's memories in a technical way, they do not possess the requisite knowledge to actually fulfill an archivist's role. Computer specialists do not understand the concepts of provenance and original order, which are the two most essential aspects in determining archival value. What these companies are actually offering is a way to update people's memories and keep them organized. They are not offering archival services, and clients should be made aware of this. The question that arises, of course, is how?

Archivists must be made aware of the Internet and the wealth of personal records that are appearing there daily. They must work with information specialists to determine how best to capture these records. Issues of provenance and original order will come to the forefront, and archivists will have to devise a way to ensure that the records that have archival value can be preserved, without fear of corruption or loss of context.

Some companies have come up with ways to archive electronic records. Iomega has introduced an external zip drive that creates long-term storage solutions for personal computer users. An external zip drive gives the user access to extra memory and storage space, and it is compatible with both PC and Macintosh computers. The company states that it can be used "to record, archive, share, and distribute up to 650MB on a common CD format," as well as having a host of other useful functions.[87]

Dennisre.com has introduced the Archive Explorer v1.5. This is a standalone interface that enables users to work with compressed files, edit existing files and create new ones, as well as functioning as a self-extracting archives.[88] Kodak has also introduced an archiving device, although it is for corporate, as opposed to personal use. It is called the Document Archive Writer, and it converts digital documents to a format that ensures low-cost, long-term storage and access.[89] Kodak also offers a digital archive system that allows organizations to "collect and manage files electronically, then migrate the files to microfilm as they age."[90] While these systems are designed to capture and store electronic records, they do not address the Internet and the personal records created there. Archivists, especially, are lagging behind when it comes to viewing the Internet as a viable source for personal records.

Some information specialists have already realized the implications of the Internet and the records it produces, and have attempted to capture for posterity. In 1996, Brewster Kahle founded the Internet Archive, which "gathers, stores and allows access to all public information on the net.... The Archive will serve as

historical record, a backup for dead sites, and a dataset for Internet research."[91] As of February 2001 the Internet Archive's collections included: one billion pages, or 13.8 terabytes, from the Web from 1996 to the present; 50,000 sites from the FTP in 1996; and 16 million postings from Usenet between 1996 and 1998.[92] This site, although it is the closest thing to an electronic archives, also does not employ any archivists. Most of the staff are computer experts, although Kahle is described as "an engineer by profession, and an archivist at heart."[93] Peter Lyman, although affiliated with the School of Information Management and Systems at the University of California, Berkeley, is actually a Political Scientist. There are no archivists listed among the advisors to the Internet Archive, and the only job listing is for a computer programmer.[94]

Ordinary people are now beginning to spend much of their lives online. They conduct business, maintain personal relationships, and even shop via the Internet. In fact, some people have even experimented with living only with digital means of communicating. Brady Gilchrist, a thirty-three-year-old consultant, moved to a boat docked in the Toronto harbour and lived there digitally for six months. As he states, "I've done away with all traditional forms of media and found new ways of consuming information .... I am trying to prove that convergence is here, that the technology for digital living is here and it is off the shelf."[95] Gilchrist kept a journal during his six month experiment and kept it updated on his Web site. At the end of the experiment, he writes that he learned that

> If you put your life online in an intelligent way you are
> more accessible to people and opportunities that

come your way …. The most important lessons of living digitally really had nothing to do with trying to learn about technology – the digital life experiment was initially all about how technology can enhance your life – and it did but, went beyond that to become a touch point for meeting people.[96]

Randi Kaye, a WCCO TV news anchor in Minneapolis agrees with Gilchrist. In a related, but much shorter experiment, Kaye lived completely digitally for sixteen days in a Minneapolis apartment. She states in her online journal that what she will miss most at the end of the experiment is the friends she made on the Internet. She states that "she came to depend on them for companionship, information, and as a source of inspiration."[97]

This is one of the most interesting things about the Internet. With the increased communication ability due to emerging technologies, people from around the globe are able to "meet" and form relationships and friendships. Although many people will never get the chance to meet in person, these Internet relationships can be an integral part of their life. As Sue Wildermuth, Assistant Professor of Communication at the University of Wisconsin-Whitewater, states: "Thanks to the Internet, more and more people are forming international friendships. But, because international visits, phone calls, and letters are often expensive, time-consuming, and impractical, these friendships are primarily maintained only through on-line interaction."[98] These experiments in "digital living" suggest a degree of public enthusiasm for computerized personal communication which underscores the urgency of the need for responses to the archival challenge it presents.

It is time for personal records archivists to embrace the Internet as a source of personal records and set to work devising archival solutions to the problems that have arisen. Adrian Cunningham is on the right track when he states that personal records archivists must become active in pursuing electronic records.[99] But it is essential to go even further than Cunningham has envisioned, and also begin to pursue personal documents created on the Internet. Web pages, family histories, photo albums, electronic mail, and diaries -- all of these are personal records that are being created daily on the Internet, and have yet to be addressed by the archival community.

Personal records archivists need to understand the changing means of communication to move with personal records into the twenty-first century. They must no longer be content with sitting on the sidelines hoping that an interesting collection comes their way. Personal records archivists must be prepared to search the Internet and other sources for personal records, long before they are ever acquired by an archival institution. These same archivists, as Lucie Paquet suggests, must be adequately trained in computer operating systems and various types of software in order to both appraise records and ensure their technical preservation.[100] They must also be willing to team up with communication and technology experts in order to find solutions to archiving problems created by the Internet and increased computer use.

The time for all of this to occur is immediately. Records are being lost at an appalling rate due to increased technology and inadequate personal records archiving capabilities. If archivists do not want to lose entire generations of

personal records, they have to begin to change their focus now. It is essential that archivists understand the implications of the Internet and increased communication technologies for the collections that are appearing in archival institutions. Without intervention and education, decades of personal records will be obliterated through neglect and lack of knowledge. It is up to archivists to educate society and information specialists about the importance of good record keeping systems and the maintenance of electronic records if we are to be left with a more complete sense of how society functioned at the turn of the millennium.

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**CHAPTER FOUR**

**INTO THE FUTURE: ARCHIVAL RESPONSES TO PERSONAL
ELECTRONIC RECORDS**

Throughout this study, many aspects of personal electronic records have been examined. The impetus for the study of these records is the Canadian total archives tradition, discussed in chapter one. A review of the approaches that archivists have devised for dealing with institutional electronic records and the critique of this by personal records archivists has been provided in chapter two. Chapter three points out that recent computing technologies make even more complex the challenge of personal recordkeeping and archiving. Yet to be examined are archival responses to the practical challenges of managing personal electronic records and archives.

The following chapter will look at several archival institutions and relate how they have tackled practical issues surrounding personal electronic records. Archivists at several institutions were asked to answer some brief questions about the topic in order to get a glimpse of where institutions stand with respect to personal electronic records. [See Appendix]. The archivists were also asked several personal questions about where they themselves think that the archival community should be headed in order to ensure the preservation of personal electronic records of archival value. Following these survey answers, a detailed review of the work of Lucie Paquet and the personal electronic records program at the National Archives of Canada will be provided.

Eight archivists from various countries were consulted about personal electronic records in the form of a brief survey. They were: Shelley Sweeney, Head, University of Manitoba Archives & Special Collections [UofM]; Gordon Dodds, Provincial Archivist of Manitoba [PAM] ; Lucie Paquet, National Archives of Canada [NAC]; Maggie Shapely, Director, Publishing and Personal Records, National Archives of Australia [NAA]; Richard E. Barry, an Independent Consultant from the United States; Adrian Cunningham, National Archives of Australia [NAA]; and Tom Mitchell, Archivist, S.J. McKee Archives, Brandon University [BU]; and Paula Waring, National Library of Australia [NLA]. These eight were chosen because they represent significant local (Manitoba) archival interests; the National Archives of Canada, which represents possibly the leading personal electronic archives program in the world; and Australia, which represents the other main source of innovative thinking on this topic. Rick Barry was consulted because he is one of the leading experts on electronic archives in the world.

The answers were varied and give the reader a good sense of where the community stands regarding both electronic and personal records. When asked whether the respondent's institution collected personal records in electronic form, Mitchell and Dodds replied in the negative, while Sweeney, Shapely, Waring and Paquet answered in the affirmative.[1] The next question concerned whether the collecting institution has a mandate to acquire electronic records, and if this mandate covers personal electronic records as well. Both Sweeney, Waring and Dodds answered that their institutions do not have a specific mandate to collect

electronic records but they do not distinguish by type and that electronic records

and personal electronic records would be accepted by their respective

institutions.[2]  Shapely [NAA] answered that

> The definition of record in the Archives Act 1983 (our
> current legislation) is intended to cover all records
> formats although it doesn't of course mention
> websites!  We have proposed an amendment to our
> Act which doesn't specify format.  So electronic
> records are covered at the moment but only insofar as
> they have a format that's mentioned.  Personal
> records are covered by reference to holders of
> 'prescribed office(s) under the Commonwealth' under
> 'authority of the Commonwealth'.[3]

The National Archives of Canada also has a mandate to acquire personal

electronic records.  Paquet [NAC] states that

> The National Archives has a mandate to acquire
> personal records in electronic form.  The Canadian
> Archives Branch (which includes the former
> Manuscript Division) has this specific mandate….
> These documents include a mandate for government
> records and personal records in electronic form.  See
> also the National Archives of Canada Act (1987).[4]

When those whose institutions do not currently have a mandate

specifically regarding electronic records and personal electronic records were

asked if their institution would be implementing one in the future, Sweeney

[UofM] replied, "We would not specify electronic records.  If that is how the

material comes to us (say on a CD or a diskette) then we will accept it."[5]  Dodds

[PAM] replied, "not applicable" and Mitchell replied "No."[6]

The archivists were then asked: "If your institution currently accepts personal electronic records what measures does it take to identify, appraise, acquire, accession, process, describe, preserve and make available for use these records? Do personal electronic records require substantially different archiving measures from those required by other records?" Shapely [NAA] replied,

> The organisation originally adopted a non-custodial policy for electronic records in government agencies but will now accept electronic records when agency reference to them ceases. Descriptive standards for those which are accessioned are being developed....
>
> As the Personal Records area is a two-person team and personal records is a minor part of our collection, we will be tagging on to whatever is developed for government agency records. We are not far advanced in coping with electronic personal material. We currently accession floppy disks as part of personal records collections and we have one website which is 'parked' on our own corporate server. These records are covered by a thirty year rule so public access isn't a pressing issue yet.[7]

Paquet [NAC] replied that

> Between 1994 and 1999 the former Manuscript Division approved specific directives and procedures to identify, appraise, acquire, accession, process, describe, preserve and make available to the public personal records in electronic.[8]

Dodds [PAM] replied that the Provincial Archives of Manitoba was working on ways to identify and preserve electronic records, and remarked that personal

electronic records would not be excluded from this study.[9]  Sweeney [UofM]

stated that electronic records

> would not be treated differently than films, for
> example, that have special requirements.  This will
> change however, as we get more and more[electronic
> records] we will have to consider keeping a log to
> ensure regular migration.
>
> Personal electronic records would require the same
> information to be logged as other electronic records.
> You would need to include sufficient technical and
> software data to ensure that the material could be
> migrated when necessary.
>
> Long term preservation is a very problematic issue.
> Can the original qualities of the records be saved in
> another format?  I suspect that most attributes will be
> lost in subsequent migrations.  We will be most
> successful with straight text.[10]

Waring [NLA] states that electronic records are generally acquired as part

of a larger paper-based collection.  When electronic records are discovered, they

are registered on a 'digital material data sheet,' although some electronic records

are not discovered until the collection is processed, which may be several years

after acquisition.[11]  Waring also writes that "electronic records require different

archiving measures because converting them and appraising them is very time

consuming and costly in staff time.  We are also faced with the difficulty of

valuing electronic records offered for sale by authors."[12]

The next question asked respondents, "If your institution does not

currently work with personal electronic records, do you think it will in the future?

If so, how do you foresee your archives or archives generally performing this

work?  If you do not foresee your archives working with personal electronic records, why do you think this is so?"  Sweeney thinks that the University of Manitoba Department of Archives & Special Collections "will be working more with electronic records in the future.  We will need to work closely with our local and university technology services to ensure the longevity of our electronic records."[13]  Dodds replied that "Electronic records (personal included) are just as much part of PAM's attempt to appraise records from various sources, public or private.  In practice, we are working out how this can effectively be achieved.  Simply obtaining disks or tapes is not a solution."[14]  Mitchell [BU] assumes that

> we will create accession and related finding aids
> similar to those employed for conventional archival
> sources.  Storage may present fewer problems than
> conventional records.  However, like conventional
> records, electronic based records may have to be
> reformatted from time to time to ensure access with
> changing technology.  This may be a major issue of
> convertibility for some records.[15]

It can be seen from the above answers that there is no consensus on how institutions deal with personal electronic records.  Furthermore, several of the institutions appear to be just beginning to give the matter thought.  This is probably true for most archivists and archival institutions as we head into a new era of record creating and recordkeeping.  The topic of personal electronic records has been widely ignored by the larger archival community, and even some manuscript archivists are worried about taking on the added responsibility of a new generation of complex records.

The next part of the survey posed questions about the direction in which the archivists believe the archiving of personal electronic records is headed. The first question asked is "Do you think that the archival community has adequately addressed the issue of personal electronic records? Why or why not?" Most of those surveyed believe the answer to be no. Paquet wrote:

> I consider that the archival community has not adequately addressed the issue of personal electronic records yet. Why? It is mainly because the archivists working in this area are traditionally trained to work with paper records. They consider that paper records are the most significant records. A lack of knowledge in electronic sciences is the main obstacle to improving the situation. Acquiring personal electronic records [involves] new ways to work with a proactive approach...and the archivists do not want to change their traditional work (passive approach). Only a few archivists at the Canadian Archives Branch of the NA want to acquire personal records in electronic form. The majority of them do not!! Also, the majority of managers of that branch do not want to be involved in new ways of work (with a proactive approach) because they may create problems. Some managers told me that "the next generation of archivists will be more aware [of the need] to acquire personal records in electronic form".... It is easy for them to give the responsibility to the next generation of archivists. It is an excuse for them. We are losing very significant personal records right now because our donors are using computers to produce their personal records.[16]

Shapely agrees that the archival community has not adequately addressed personal electronic records. However, she believes that it is because "the effort has gone in to addressing the potentially vast quantities of electronic government archives. As Editor of <u>Archives and Manuscripts</u> I am personally

keen to see the profession advance on this issue...."[17]  Leading American

electronic records consultant Rick Barry also believes that the archival

community has not adequately addressed this issue:

> The archival community has not paid adequate
> attention in my view to the issue of personal electronic
> records.  It is evident from reading the journal
> literature, observing the ER [electronic records]
> research and conference agendas and simply
> listening to what people are talking about on the lists,
> in the corridors, at the end of the day over beer, at
> professional meetings and what I see in personal
> exchanges among colleagues.  Yet, there are many
> archivists who deal with manuscript archives who
> increasingly do or will receive information in electronic
> form, even electronically in original order.[18]

Dodds believes that archives have not addressed the issue fully because

"it is technologically complex (electronic records) and because personal

electronic records are generally not in an archival medium that has any easy

means of being retrievable in future years.  Costs of archiving this state still look

formidable for most archives."[19]  Sweeney does not believe that it is

> ... within the capability of the archival community to
> address the preservation issue of any electronic
> records, much less personal electronic records, but
> [she does] think that such projects as the UBC
> project, the Pittsburgh Project, and more, recently,
> InterPARES, will contribute much to the solution of
> long-term preservation.  Personal electronic records,
> however, are much more likely to be generated by a
> popular program, rather than be a home-built
> program.  The simulation model ... may be promising,
> where the computer could [simulate] older common
> models of electronic software programs.[20]

Waring believes that the reason that personal electronic records have not been adequately discussed in Australia may be the small volume of records that has been acquired so far, although she also states that "personal archive issues of any sort are rarely given much prominence in our archival community."[21]

When asked what must be done at the individual and community levels in order to ensure the archiving of personal electronic records the respondents came up with varied responses. Paquet advocates

> Education, communication in all ways (conferences, listserve, electronic publications, paper publications, videos, website, specific association of archivists working with personal records in electronic form, etc. etc.) must be created between institutions across Canada and other countries to address the issue of personal records in electronic form.[22]

Shapely believes that "we need some of the experts to scale down their strategies to fit the person rather than the government or corporation. And publish!"[23]

Dodds argues, "Appraisal first. Which personal electronic records need to be archived? This is the essence. There has been little attention given as yet to what the requirement is."[24] Mitchell suspects that "the principal issue is to determine a format that will accommodate a variety of electronic records. Such a format should be made available to those generating potential archival records-- writers for example—so that their work may be archived in electronic form

without misadventure."[25] Mitchell also suggests that members of the archival community "need to become more aware of the potential for archival work in this area."[26] Sweeney believes that "actually being approached to take some complicated electronic records may spur some activity."[27] Waring states that "collecting archives themselves need to recognize the material as important and worthy of acquisition and preservation rather than just as a marginal problem to be dealt with."[28]

Barry has come up with several thoughtful ways of adequately addressing personal electronic records:

> Firstly, we need a well thought out articulation of what we mean by personal records and personal electronic records. There hasn't been enough discussion of the issue to even have a common understanding yet of what it is we are talking about.
>
> Secondly, there has to be some recognition that this is an important topic and that it isn't simply one that is of interest solely to manuscript archivists, but should also be of interest to organizational archivists.
>
> Thirdly, we should ask: what concepts, practices and tools that we provide for organizational electronic recordkeeping apply equally well for personal ER [electronic records]? What unique needs are associated with personal ER? What do the people who are most involved with personal ER think is need that isn't now easily available in organizational systems? Are newer forms of record*making* technologies such as handheld computers, two-way pagers, smart cell phones and the like, that are not trustworthy record*keeping* technologies going to significantly increase the amount and importance of what might be regarded as personal records, whether they are only that or are also organizational records.

>Fourthly, providing a policy, procedure, structure, enabling technology and some simple guidelines for these kinds of records would go a long way toward assisting archivists who must deal with both digital manuscript and organizational electronic records....
>
>Policies, procedures, etc., in turn, require some attention to the subject on the part of the archives and records management professional community and ultimately to the vendor community to fill needed gaps in enabling technology.[29]

Clearly, those who have spent some time considering the impact of personal electronic records on archives have come up with some useful and common sense ideas about how to deal with them. For the most part, these ideas include developing policy and procedure, wider communication throughout the archives field, and education and training. It is also evident from the answers, however, that few archivists are actively considering what to do with personal electronic records. Indeed, for the most part, the archivists questioned have a "wait and see" attitude which seems to be the prevailing course of action regarding this subject. It is only through active research by those such as Paquet, Shapely, Cunningham and Barry that progress can ever hope to be made. Without active involvement from the archival community important personal electronic records will continue to be lost. Thankfully, some of the larger institutions throughout the world are beginning to address the topic seriously.

One of the most comprehensive studies into the archiving of personal electronic records has been undertaken in Canada. In 1995, the Canadian Archives Branch of the National Archives of Canada began studying the personal

electronic records in their care. Through this study, the National Archives of Canada has "developed and approved policies, procedures and tools that make it possible to acquire and process electronic records so that archivists can work with them."[30]

One of the biggest concerns with electronic records in the private sector is the feeling among many archivists that with increased computer use by potential donors, the acquisition of records will decline. Because of increasingly rapid technological changes and the amount of time electronic storage media can maintain their integrity and defy obsolescence, it is getting harder to ensure that important personal records are captured for posterity. However, Paquet believes that "private archives can survive if archivists and archive managers are willing to become actively involved and if they agree to make major changes in working methods and commit the human and financial resources needed to ensure the integrity and preservation of electronic records."[31]

Paquet suggests that electronic records make up approximately ten percent of the average donor's records.[32] This is often because the speed of technological obsolescence has destroyed or made unavailable most of their records. However, it is also because at the National Archives of Canada

> Taking on the responsibility for acquiring and processing electronic records represented a significant change for staff (both archivists and managers) with very limited knowledge of a technology that necessitated not only familiarity with informatics but also new working methods and new electronic tools.[33]

Paquet feels that the main reason why electronic records acquisitions is still quite low in comparison to textual records is that most archivists still feel that the paper records are the only true archival records and that traditional acquisition methods do not work when dealing with new forms of media.[34] In order to deal with problems like these the National Archives of Canada undertook a three-year study to determine the best course of action regarding personal electronic records.

As a result of the study, a document entitled "Directives and procedures for the integration of records in electronic form within the archival function" was completed in November of 1998.[35] This document details procedures that manuscript archivists should follow for the acquisition, processing, arrangement, description, preservation, researcher access and destruction of personal records in electronic form. The document is quite detailed and provides examples and forms that should be used when archivists are considering acquiring personal electronic records.

The first and, arguably, one of the most important aspects of archiving personal electronic records is the acquisition process. Like Adrian Cunningham, members of the National Archives of Canada study team believe that "it is important to plan National Archives involvement as far as possible during the records' life cycle—to begin ... as soon as these individuals or organizations appear in our archival sights."[36] The directives break the acquisition process down into several parts. One of the most important aspects of the acquisition process is the implementation of new planning initiatives. Rather than waiting

until the National Archives is approached by a donor, or until the donor's active record creating phase is over, archivists must become involved in the creation stage. This includes keeping an eye out for potential donors and approaching them regarding their records. As well, archivists should be trained accordingly, in order to "promote donor/depositor awareness and provide expert advice shortly after records are created and during their life cycle."[37]

The section on acquisition provides archivists with detailed help with development of a work plan and with methods of approaching potential donors. One of the most important sections on the topic of acquisition is entitled "Factors to be weighed when visiting donors or depositors." This section explains that archivists need to determine three main criteria when surveying electronic records for acquisition. They are: the context in which the records were created, the physical and intellectual aspects of the records, and the criteria for satisfactory transfer of the records to the National Archives of Canada.[38] It is also crucial that the electronic records be examined on site, that is, in the home or personal environment of the donor. The archivist will then be able to determine which records should be transferred to the Archives without having to acquire all of them. This cuts down on the amount of work done in processing electronic records by the Archives.

Paquet writes that there are two generations of personal electronic records. The first encompasses records that were created in the 1970s and 1980s, using basic technology that has long been obsolete. When dealing with this technology, the archivist takes a "passive, investigative approach."[39] The

technologies of the second, more recent generation require the archivist to take

a "proactive approach for recently-created records, characterised by their

diversity, by the increase in the quantity of software and electronic formats, and

by the integration or interconnection of equipment."[40]

The National Archives of Canada has the technology to convert many of

the older format computer programs and disks to the new formats.  This means

that it is sometimes possible to read once again files that were considered "lost"

by the donors.  Paquet writes that

> When I tell them that at the National Archives of
> Canada we have developed an electronic record
> acquisition and processing system that makes it quite
> likely that we can convert these older records into a
> newer electronic format, their happiness is written all
> over their faces.  From then on, they trust me and
> agree more readily to my recommendations about
> managing and saving the files stored on their present
> computers.[41]

The knowledge that there are important personal records created and

stored in electronic form has cause the National Archives of Canada to adopt two

main criteria when acquiring a donor's records.  The first is to take an

interventionist approach, whereby the archivists identify donors during the

creation stage and help them adopt a comprehensive recordkeeping system that

will ensure that no records are lost.[42]  The second is to ensure that archivists

have adequate computer training in order to identify and use common operating

systems like "Macintosh, Windows, …etc., and the software used by creator-

donors."[43]  This ensures that the archivists are able to do on-site appraisal and

ensure that the records are safely transferred to the National Archives. The records are transferred from the donor's computer to the National Archives by way of an external hard drive that the archivist or technician can attach to the donor's computer. The aim is to preserve the order in which the records were stored on the donor's computer, maintain their provenance, and transport them safely back to the Archives.

The next part of the National Archives' directives for archiving personal electronic records involves the preliminary processing of the records. This section includes three major stages: the preliminary processing of the electronic records by the Manuscript Division, conversion and copying by the Electronic Systems Projects Division, and final processing by the Manuscript Division.[44] The preliminary processing involves locating, assembling and preparing documentation about the records that will be used in subsequent stages, as well as arranging the materials and numbering them consecutively.[45] The documentation that has been generated by both the archivist and the donor is collected and is essential in assisting the Electronic Systems Projects Division (ESPD) with their conversion and copying work.

At this stage, the archivists are solely responsible for the early arranging of the records. They are not to attempt to read the electronic records on their own computers because of the risk of contamination by a virus or possible damage to the diskette.[46] The archivists get the records ready for transfer to ESPD, and ensures that all proper documentation and forms have been completed.

Once this is done, the records are sent to ESPD. ESPD is responsible for "copying and converting the contents of diskettes, tapes and other media as forwarded by the archival staff and respecting the order of physical arrangement and description established by the archival staff."[47] This department provides the archivist with a working copy of the records in CD-ROM format, which the archivist will use for the final arranging and describing. As well, ESPD keeps a backup copy of the records in its own system until the archivist has completed the final selection, arrangement and description.[48] ESPD is also responsible for "making the first copy of an accession of unprocessed electronic records on an 8mm exabyte tape to be kept at the Gatineau Preservation Centre," and for writing a report to the archivist that explains the various processes used and the outcomes of the copying and conversion of the electronic records.[49]

The next stage is the arrangement and description of the records by the archivist using the CD-ROM that was copied by ESPD. One important aspect of the process is the security of the records. There are two main types of security that the archivist should note. The first is physical and environmental. The archivist can attend to the first type by ensuring that regular backups of the records on the C: drive are made, ensuring all diskettes and copies are safely stored, locking the computer at the end of the day to prevent access to the C: drive, and remembering to reformat the C: drive when there is a hardware upgrade at the Archives.[50] The second type of security measure involves communication and computers. This includes refraining from the following: sending archival records in electronic form via the Internet or by e-mail, storing

the records on the National Archives of Canada's own network, and trying to access the donor's original records on his or her own computer before copies have been made by ESPD.[51]

The next aspect of arranging and describing personal electronic records has four processing phases. The first involves examining the records in order to select those that are archival. In the next phase, the archivist prepares the arrangement plan for the fonds. The National Archives policy reads: "Electronic records should be integrated intellectually into the series, subseries of the fonds to which they belong."[52] It is not recommended that archivists create an artificial electronic documents section in their finding aids. The third phase provides for the arrangement of the records in electronic form. The final arrangement is done on the C: drive of the archivist's computer. This process establishes the arrangement structure for records in electronic form with a MG number or MIKAN archival reference number and also establishes "virtual" volume numbers on the archivist's computer hard drive.[53] The fourth phase focuses on the description of the records in electronic form for MIKAN, which is a National Archives of Canada program. It is during this part of the process that access conditions and restrictions are described. The records in electronic form are then integrated into the finding aid for the fonds.

Once these steps have been completed, the National Archives of Canada concerns itself with the preservation of the records in electronic form. ESPD is makes a copy of the final arrangement and description of the records from the archivist's computer. This copy is made with an external hard drive.[54] ESPD then

makes the first permanent copy of the records in electronic form on an 8mm exabyte tape from the copy made of the records on the archivist's computer. This copy is then sent to the Archives Preservation Division (APD). APD then makes a DLT (Digital Linear Tape) copy from the forwarded 8mm exabyte tape. The 8mm tape is then sent to the Archives' Renfrew storage facility for preservation while the DLT tape is sent to its Gatineau Preservation Centre.[55]

Currently, when researchers request access to personal records in electronic form, they must speak directly with the archivist responsible for the fonds. It is the archivist who arranges for copies to be made of the records for researcher use. If a request is made for a copy, the APD uses the DLT tape from Gatineau to make the copy.[56] Until the Reference Room at the National Archives of Canada has the capability to provide access to records in electronic form, the researchers will continue to speak directly with the archivists.[57]

The final part of the directives and procedures manual concerns the destruction of records in electronic form. This section explains the various steps that the archivist must take in order to destroy a donor's electronic records. The archivist must obtain the donor's permission to destroy any records in the Archives' possession.[58]

This procedural document created by the National Archives of Canada as a result of its three-year study of personal electronic records is unique in the archives community. No other institution has devoted as much time and study to the subject of personal electronic records. It can be seen as a guide for other

institutions, as well as a touchstone for other studies as technology continues to evolve into newer and more complex formats.

It should be noted that the survey pertained primarily to electronic records that are generally found in word processing format. That is, most of these records are available fairly readily in a disk format. The question of Internet records was not addressed thoroughly in the survey. As well, the system in place at the National Archives of Canada also deals primarily with electronic records in a word processing setting. While this system works wonders for the preservation of older technology and current technology, it is still lacking with regard to Internet records, which may never take a tangible format. It is these virtual records that archivists must begin to examine in order to develop the ways and means of ensuring that important documents remain accessible to society, both now and in the future. As American archivist William G. LeFurgy has noted, "The web is still new and the technology upon which it is based is constantly changing. A period of trial, error, and learning lies ahead before there are broadly applicable philosophies and techniques for effectively managing web records."[59] LeFurgy states that, despite the myriad unknowns and problems yet to be encountered with the new technology, "the web is a historic phenomenon and ... it is necessary to dig in and do our best to ensure that it is addressed as such."[60] Shelley Sweeney has also addressed the problems archivists are facing when dealing with Internet records:

> It is vitally important to distinguish which of the
> documents on the Web are originals, i.e. they do not
> have a hardcopy equivalent. All versions of a

document must also be considered, as Internet documents have a tendency to undergo more frequent changes than non-Web-published documents. If a document is considered "original," then the decision must be made if it is worth archiving, based on the fiscal, legal, administrative and historical values. If it is original, and it is considered worth saving, then a method must be found for keeping it intact and preserving it - often electronic documents that appear on the Web have characteristics that can only be preserved in electronic form and these must be sustained over time. Those that depend upon other Internet documents must have those off-site portions preserved as well.[61]

This study of archival responses to the topic of personal electronic records has shown that while some institutions have undertaken research projects on the subject, others are patiently waiting for someone else to take the lead. The smaller institutions, especially, are setting aside the electronic records donated to them to some extent, waiting for the solutions to arrive. Even some of the larger institutions are reluctant to put scarce resources into examining personal electronic records as a separate and distinct form of recordkeeping. It is through studies like the one at the National Archives of Canada that progress can be made and the loss of important archival records can be reduced. Until other institutions and archivists are willing to take up the torch raised by personal electronic records advocates such as Cunningham, Paquet and the National Archives of Canada, we will continue to see massive amounts of personal electronic records disappear into obsolescence.

## Endnotes

[1] Survey Results 23-27 April, 2001.  These are available from Karyn Taylor for examination.

[2] Shelley Sweeney,  24 April 2001; Paula Waring, 9 May 2001;  Gordon Dodds, 23 April 2001.

[3] Maggie Shapely,  24 April, 2001.

[4] Lucie Paquet,  27 April 2001.

[5] Sweeney.

[6] Dodds; Tom Mitchell, 27 April 2001.

[7] Shapely.

[8] Paquet.

[9] Dodds.

[10] Sweeney.

[11] Waring.

[12] Ibid.

[13] Sweeney.

[14] Dodds.

[15] Mitchell.

[16] Paquet.

[17] Shapely.

[18] Rick Barry,  24 April 2001.

[19] Dodds.

[20] Sweeney.

[21] Waring.

[22] Paquet.

[23] Shapely.

[24] Dodds.

[25] Mitchell.

[26] Mitchell.

[27] Sweeney.

[28] Waring.

[29] Barry.

[30] Lucie Paquet, "Appraisal, Acquisition and Control of Personal Electronic Records: From Myth to Reality." Archives and Manuscripts 28, 2 (November 1999), p. 72.

[31] Lucie Paquet, "Electronic Records from the Private Sector: Experience, Strategies, and Methods for the Forgotten Half of the Archival Digital Revolution." Terry Cook, ed. Electronic Records Practice: Lessons from the National Archives of Canada. (Kluwer Academic Publishers, forthcoming), p. 286.

[32] Paquet, "Appraisal, Acquisition and Control of Personal Electronic Records" p. 74.

[33] Paquet, "Electronic Records from the Private Sector" p. 290.

[34] Ibid.

[35] Paquet et. al. "Directives and procedures for the integration of records in electronic form within the archival function." Available from Lucie Paquet at: lpaquet@archive.ca.

[36] Ibid., p. 11.

[37] Ibid., p. 12.

[38] Ibid., p. 15-16.

[39] Paquet, "Appraisal, Acquisition and Control of Personal Electronic Records" p. 75.

[40] Ibid.

[41] Ibid., p. 76.

[42] Paquet, "Electronic Records from the Private Sector" p. 292.

[43] Ibid.

[44] Paquet, "Directives" p. 39.

[45] Ibid.

[46] Ibid.

[47] Ibid., p. 45.

[48] Ibid.

[49] Ibid.

[50] Ibid., p. 47.

[51] Ibid.

[52] Ibid., p. 48.

[53] Ibid., p. 49.

[54] Ibid., p. 59.

[55] Ibid., p. 63.

[56] Ibid., p. 64.

[57] Ibid.

[58] Ibid., p. 65.

[59] William G. LeFurgy. "Records and Archival Management of World Wide Web Sites." Available at: http://www.rbarry.com/LeFurgy-W-grn0104.htm. Accessed 2 February 2002. First published in Government Record News, the newsletter of the Government Records Section of the Society of American Archivists, 2000-2001, Issue 2, April 2001.

[60] Ibid.

[61] Shelley Sweeney to Karyn Taylor. E-mail. 6 February 2002.

# CONCLUSION

At the annual conference of the Association of Canadian Archivists held in St. Boniface, Manitoba in June 2001, there was a seminar entitled "Evidence and Anecdote: A Panel on Personal Papers." The three speakers were George Brandak from the University of British Columbia, Catherine Hobbs from the National Library of Canada, and Normand Laplante from the National Archives of Canada. The program stated that this session would "explore archival topics of current interest relating to personal papers; the emphasis will be on practical, experiential knowledge of dealing with personal papers in archival repositories in Canada."[1] The topics to be discussed were: "documenting rural and northern Canada; copyright issues in personal papers; total archives and appraisal strategies; privacy issues; and sampling populations – how much is enough?"[2]

It can be noted that none of the speakers planned to discuss personal electronic records, and indeed, none of them mentioned the word electronic at all during their presentations. This seems in accord with how most of the archival world is approaching the topic of personal electronic records. It was not until a question was raised about these records during the question period that the topic came to the forefront. In response Hobbs mentioned that the National Library of Canada is just beginning to study the question of electronic records. It is mainly looking at word-processing documents and is currently unable to deal with the concept of Internet-related electronic documents. Brandak concurred with Hobbs, stating that the University of British Columbia has begun discussing the

issue with people, although it has not received any personal electronic records as yet. He also stated that this was something to be considered in the future. However, Laplante discussed the set of procedures and directives (mentioned in chapter four) that the National Archives of Canada has in place for dealing with personal electronic records. He also mentioned that the National Archives of Canada has mainly dealt with word-processing documents.

Lucie Paquet of the National Archives was in the audience during this question period and remarked that archivists should give donors advice on how to preserve documents such as e-mail. She said that it is both possible and essential to preserve these types of documents, and that she is optimistic about the future for personal records archivists. Rob Fisher from the Canadian Archives Branch of the National Archives of Canada suggested to the audience that all would benefit from studying the directives and procedures manual for personal electronic records produced in 1998 by the National Archives. The discussion was encouraging to hear, and hopefully will have some bearing on how archivists approach their records upon their return to their institutions.

This study has shown that personal records archivists will have to take the initiative in order to ensure that electronic records are preserved for posterity. The Canadian archival tradition of total archives provides a clear precedent for the acquisition of personal electronic records. Personal records archivists will also be able to take many of the ideas and strategies being developed by archivists regarding electronic records in general and manipulate them to serve their unique needs in the personal realm. Adrian Cunningham advocates that

archivists assist the donor in developing a recordkeeping system, that donors keep records in electronic form, and that archivists and researchers obtain further computer education. Rachel Hyry and Tom Onuf write that archivists need to educate the public on how to manage their personal records. Paquet states that there should be active involvement of archivists in the creation of electronic records, more training in computer technology for archivists, and the establishment of guidelines and specifications of computer software that will enable good recordkeeping capabilities.

Archivists also need to understand how and why people are creating records using the Internet in order to devise solutions for the recordkeeping problems that are arising. Archivists need to develop relationships with system developers and communication experts in order to ensure that valuable records are preserved. With regards to digital photography, both photographic archivists and electronic records archivists will need to work together in order to come up with solutions to digital photography problems.

In the genealogical world, questions of access and use of archives are raised. Archivists need to know who is using the archives and why in order to set policies in place that can best serve the customers. As well, the computer and information specialists that run many of these Internet companies do not understand the concepts of provenance and original order. Archivists need to embrace the Internet as a viable source of personal records and set to work devising archival solutions to the problems that are arising. Archivists must work

with information specialists in order to determine how best to capture these records without fear of corruption or loss of context.

Archivists must be prepared to actively search the Internet and other sources for personal records. They must be adequately trained in computer operating systems and various types of software in order to both appraise records and ensure their technical preservation. Archivists must also be willing to team up with communication and technology experts in order to find solutions to archiving problems created by the Internet and increased computer use. Archivists should be involved in the design process of software and operating systems to ensure that good recordkeeping capabilities are built into the programs.

Most archivists believe that the archival community has not yet adequately addressed the topic of personal electronic records. Paquet advocates education and increased communication as a way of starting to resolve some of the problems. Maggie Shapely believes that the experts would do well to take the strategies being devised for governments and corporations and scale them down to fit the individual. Rick Barry suggests that the first step towards a solution would be to come up with clearer definitions of personal electronic records and personal records in general. There also needs to be recognition from the community that this is an important topic. He also suggests that there should be policy, procedure, structure, enabling technology, and simple guidelines created for these types of records.

The National Archives of Canada's directives and procedures document is an essential starting point for personal records archivists. It can be considered a work in progress, as newer forms of technologies will cause it to be updated and revised. However, it is the only comprehensive document currently available that deals with the topic of personal electronic records.

There is hope for personal records archivists in the electronic era. However, necessary communication must take place and strategies be developed if their place in archives is to remain strong and viable. Personal records archivists must grasp the bull by the horns by embracing new technology and recognizing the importance of personal records created in electronic form.

### Endnotes

[1] Association of Canadian Archivists Annual Conference Program, 2001, p. 38.

[2] Ibid.

# APPENDIX

## PERSONAL ELECTRONIC RECORDS SURVEY

NAME:
INSTITUTION:

**INSTITUTION QUESTIONS** **(If you are not currently affiliated with an institution, please proceed to the Personal Questions section)**

1.  Does your institution currently collect personal records in electronic form?

2.  Does your archives currently have a mandate to archive electronic records in general? If so, would you please attach a copy of this mandate statement to your response? Does it include personal electronic records?

3.  If there is currently no policy regarding electronic records or personal electronic records, is your institution considering the addition of electronic records and personal electronic records to your mandate?

4.  If your institution currently accepts personal electronic records what measures does it take to identify, appraise, acquire, accession, process, describe, preserve and make available for use these records? Do personal electronic records require substantially different archiving measures from those required by other records?

5.  If your institution does not currently work with personal electronic records, do you think it will in the future? If so, how do you foresee your archives or archives generally performing this work? If you do not foresee your archives working with personal electronic records, why do you think this is so?

## PERSONAL QUESTIONS

1.  Do you think that the archival community has adequately addressed the issue of personal electronic records? Why or why not?

2.  What do you think must be done at the individual and community levels in order to ensure the archiving of personal electronic records of archival importance?

**ADDITIONAL COMMENTS** (Please feel free here to add any other thoughts you may have regarding personal electronic records)

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