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No file left behind: the predicament of archival appraising in the digital age

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No File Left Behind: The Predicament of Archival Appraising in the Digital Age

By

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Accepted in Partial Completion
Of the Requirements for the Degree
Master of Arts

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MASTER'S THESIS

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Jennifer M. Newby
July 22, 2014

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No File Left Behind: The Predicament of Archival Appraising in the Digital Age

A Thesis
Presented to
The Faculty of
Western Washington University

In Partial Fulfillment
Of the Requirements for the Degree
Master of Arts

By
Jennifer M. Newby
2014

Abstract

Technology is continually changing. New advancements in technology allow records creators to employ a plethora of different mediums. Records created born-digitally are entering the archives, and archivists are challenged in appraising records that may be available only on outdated or unreadable software or hardware platforms. This thesis examines key issues regarding working with, especially appraising, born-digital materials in archival collections. The archival profession confronts inadequate education on technological challenges, a need to reexamine archival theories and methodologies regarding appraisal, and a general terror when it comes to working with born-digital material. Through use of interviews, this thesis explores the practical side of appraisal through a discourse on what current archivists are working on, their methodologies, and their advice and recommendations for those just starting to work on born-digital material. The thesis argues that even the smallest steps to address challenges with working with born-digital material mark a step in the right direction.

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Introduction

"Technology is like air. It is everywhere and it is always moving."[1]

Technology. In 2014, what would our lives be lives without it? Millennials, born from about 1980 to the early 2000's, and generations thereafter, are immersed in a new world that is heavily connected with the push of a button. Now, technology is in everything, everywhere. An author can type her manuscripts on a computer, phone, or tablet. A photographer can digitally take 1,000's of photographs and store them in a drive the size of your thumb. A doctor can keep his patients records on his iPad. A student can download a textbook, write her papers, and receive her grades online. A soldier can video chat his with family across the world. Friends and family members can share photos, daily woes and successes, and send mail all via technology.

Technology has become a first world way of life. While technology has made our lives easier in so many ways, archivists are desperately trying to decide how to document its relationship with records creators. Archival collections are already starting to see an increase in digital material being injected into the archives.

My inspiration for this project stemmed from my internship requirement for the Archives and Records Management program. I spent six months at a Pacific Northwest university receiving practical archival training with analog materials. At the end of this internship, I received the opportunity to continue my work with this university through telecommuting. I started the project of appraising, describing, and sorting a collection of about 69,000 born-digital objects (i.e. word documents, e-mails, digital photographs, etc.). I was given a workflow a

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[1] Anne Gilliland, *Conceptualizing 21st-Century Archives."* (Chicago: Society of American Archivists Press, 2014), 256.

minimal directions and left the state to return to my master's program at Western Washington University. While my supervisor for this project was available for questions, it was a long and sometimes difficult process to receive answers because I was not working at the same place as my supervisor.

Working with these records was slow. Many of the digital files were outdated because of software and hardware advancement and a modern computer was unable to read them. Because of these preservation issues, often I would have to convert documents, losing some metadata in order to view this material. I also had to process this collection at an item level, which meant opening every single document, converting it, and then proceeding to description. At the beginning of this new position, my supervisor sent me an in-depth workflow plan that seemed fairly easy, but tedious. My goal was to log-on to the collection remotely using a VPN connection. Once connected to the archive's server, my goal was to go through each folder one at a time. I was given an Excel sheet to fill out with columns labeled: Old File Name, New file Name (with new extension), what kind of document such as correspondence etc., description of the file, and whether or not the file was outside the scope of collection and should be deleted. My supervisor noted that most of the files were created in WordPerfect, meaning that these files would not be readable to my Windows 7, and later Windows 8 computers. There were several ways that I could remedy this. My workflow outlined file conversion. The program I used for this is called ReNamer. By inserting certain rules, such as replacing all unreadable file extensions with the extension .doc, I could easily convert all of the files in each folder into word documents. I found that converting files has both negative and positive effects for most of the digital material. On one hand, it was exciting to view the documents, deemed unreadable in WordPerfect, gain new life by just converting the file extension. On the other hand, in some

cases, the integrity of the document could become suspicious, and one large issue with this method was that some files became Microsoft Word files comprised of solely symbols without redeemable archival value. This means that by converting some of the documents, the metadata became scrambled. Because of this scramble, some documents opened as something completely different from what the creator had created, while others had large portions of the document missing. I found myself often asking theoretical questions concerning archives and ethics. Is it better to have parts of a document with metadata that is not quite reliable or is it better to lay that document to rest by deleting it? Why should I have to decide this? Am I really the person that should be deciding this? How are we going to decide the answer to these questions in the future when even more forms of technology will be used by our records creators?

Looking back at this situation, I suppose that I was asking the same questions that every new archivist asks: Why should I be trusted with the appraisal process of this material, and what should be kept? At the same time, when adding born-digital material into this situation, the questions become magnified tenfold. Now, metadata is involved. The kind of metadata that sits behind a digital object and gives important information about record such as the date and time it was first created, and if there are previous or later version. This is the kind of data that many archivists are still trying to figure out and understand.

It is going to take time, and perhaps computer science expertise, to fully understand digital material in order to make educated decisions about appraisal and other archival processing stages. Yet, time is the issue. I found this was probably the most significant problem when processing this collection. This collection had been at the archives since about 2006 when the creator passed away. Analog material can sit in the stacks until the archives has time and a budget to process it. However, I am not sure that digital material can. I cannot go back to 2006

and look at the collection's digital material to see if more of it was still readable on the computers of 2006. Yet, I suspect that more of it would have been readable then on those computers, than it is on modern computers. Unfortunately, many archives struggle with time, especially when it coincides with budget concerns, to process collections they accession. Many archivists, including myself, have become resigned to this even before we finish graduate school.

The problem with this reality is that born-digital material will not wait for time or budget. The collection I worked on did not. The frustration of helplessness when it came to this material was almost enough to make me give up. Every few weeks I found myself having to reevaluate why I was working on this collection, and why I became an archivist. I had, and still have to, remember that archivists are there to help bridge the gap of access between the creator and the user. Just because a new ways of records creation exists that I do not fully understand, does not mean I should give up. I realized very early on, in this personal experience, that I cannot leave this predicament to the next generation of archivists to figure out. As many archivists have told me, I do not have to have all of the answers, but I can persist in my research endeavor and ask the right questions in order to someday transition into an archival profession that widely incorporates working with digital material without a sense of anxiety.

About six months into this project, after only processing about 3,000 items working part-time, frustration started to permeate my entire being, and I started to question if there was a better way to work with born-digital collections, especially in the task of appraisal. After all, this situation does not just apply to personal archives. Many government agencies and organizations are trying to go paperless, so this must mean that archivists in every institution must be facing a similar situation. At the same time, in my second year of the Archival program, I started thinking of a thesis project. I thought that this might be the perfect opportunity to ask both

theoretical and practical questions, help my project, and perhaps contribute to the current and popular discussion of digital[2] material in the archive.

In order to answer my questions, I felt that I needed to speak with current archivists who had experience with collections like the one I was working with. This is why my thesis primarily deals with appraising personal collections. This discussion of born-digital material is fairly new in the archival field. This, coupled with technology's rapid changes and the uniqueness of each archival project, it seemed more logical and efficient to interview archivists individually rather than conducting a survey.

The goal of this thesis is to continue the discourse of appraisal in a broader theoretical sense, methodology, and practice. In the last ten years or so, the discourse has changed from a basic theoretical standpoint to a discourse of practicality and almost panic. The tendency for archivists is to either join the conversation or simply ignore it, leaving the digital portion of this material for someone else to deal with. Unfortunately, storing this material and essentially waiting for answers will not be beneficial to the archivist, the material, or the user.

Electronic material, for example, is very fragile in nature. With technology changing at a quick rate, and the invention of new ways for creators to create more records, archivists are plagued with issues that accompany this material in term of access, preservation, and quantity. Both archivists and the archives themselves are in a transition. The archivists who are not simply ignoring that electronic records exist, are in the middle of revolutionary new theory and methodology for appraising born-digital material. While permanent and solid answers are still

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[2] There are many terms that are used when discussing born-digital material. The words digital, born-digital, and electronic material are confusing in nature to many archivists who have only worked with analog material. The terms themselves are often used interchangeably within other scholarly articles about this material. Throughout this thesis, I will use the term 'born-digital' to encompass all items created on technology. I will use the term 'electronic' to encompass not only born-digital material but also storage devices such as floppies, zip drives, phones, tablets, computers, external hard drives, and CDs, including analog items that were digitized.

absent from the profession regarding the predicament of appraising these records, archivists are slowly realizing that outside help through the assistance of IT professionals and more education are needed in order to appraisal in a knowledgeable and efficient manner.

This thesis is organized into four chapters. The reason I chose to mainly focus on the appraisal process of born-digital material is because every question, every concern, and every frustration I had was mainly during my attempt to appraise this type of material. The barriers I faced interfered with my ability to perform basic arrangement and description. Instead of access and preservation being one of the last steps in the archival process it became one of the first issues I had to address because I was unable to open many of the documents if I did not convert them into a more modern format. I fully believe that all archival processes such as arrangement, description, access and even reference are all tied to well-executed appraisal. The appraisal process that I conducted is not efficient. It is not efficient because the right tools and theories are simply not developed yet.

The first chapter addresses the historical development of appraisal reflecting upon the theoretical framework of archivists such as Hilary Jenkinson and T. R. Schellenberg. The theoretical framework set by these two men incorporates a "wide variety of factors ranging from philosophical perspectives on the meaning of 'enduring value' to the practicality of surveying large modern business records and political collections."[3] This theory has created many strongly held opinions and conflicting ideas. It is important to understand this going into the next chapter of this thesis, which details the dialogue as it pertains to digital material. The introduction of this material into the already heavily debated issue of appraisal has "simply intensified" the quandary that is appraisal. The "Specter of certain death of digital documents skews the decision making

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[3] Elizabeth Dow. *Electronic Records in the Manuscript Repository.* Lanham: The Scarecrow Press, Inc., 2009, 2.

time frame and therefore the [archivist's] discretion—especially to say no."[4] In an analog world, the archivist can make certain decisions about de-accessioning and leave others open for discussion. Because of the fragility of digital records, it has to be assumed from the beginning that there is no time for that ability.

With electronic records, there is always an issue of time. From the moment it is created, the record is like a rose at the end of summer. The introduction of new technology and updates can make any record inaccessible in a short amount of time. Thus, even tools and practices created to appraise born-digital material can become outdated before the archivist is comfortable with it. This is the content of chapter three. Chapter three contributes to the current archival dialog concerning the appraisal of digital material by drawing from interviews of current archivists who are deep in the archival trenches working with digital material. It in is this section where practicality comes in, and the introduction of new tools to assist the archivists in making important appraisal decisions.

Since the archival profession is still in transition, it is important to seek advice and hints from current archivists for appraising this material for new archivists, such as myself, and those who are just beginning to learn and work with digital materials. Chapter four draws from advice given in both interviews and published material to help ease this transition of technology in archives. The worst thing an archivist can do when it comes to digital material is nothing. There are many ways that archivists are coping and helping each other during this time. My hope is that if we can fix even the most basic born-digital appraisal issues, arrangement, description, and access will simultaneously become more functional. If an archivist at a certain repository ignores the born-digital material, does not join the dialogue, or simply rejects help, it is certain

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[4] Dow, 3.

that many years from now, archivists of that same repository will "reopen the conversation about a much thinner, less revealing, and less accessible collection of materials." [5]

Chapter I

Appraisal Before Born-Digital Records

In order to fully conceptualize the difficulties of appraisal in the digital age, twentieth-century appraisal theory must be examined. The evolution of appraisal theories has provided sufficient discourse, as well as divides, in the archival community. For analog records, appraisal is the first step after the material is accessioned in the archives. This process is undertaken to further the archivist's understanding of the material and to make sure that the material fulfills the requirements listed in the repository's mission statement and collecting policy. While conducting appraisal the archivist must "select" the materials that "fulfill" these requirements for completing the record, the "byproducts" of which may be deemed unnecessary and are removed from the collection.[6] The archivist also decides how she or he wants to arrange, describe, and make records available to the user. The act of appraising of an archival collection is, perhaps, the most important step in the archival process, because the archivist has to make important decisions concerning the collection. Without appraisal, the subsequent process will not proceed with a clear purpose.[7]

It is this reason why early North American archival theory must be considered during the archival transition into the digital age. Most modern archivists have considered appraisal as the "first responsibility on which everything else depends" and the most "critical archival act by archivists."[8] The two most prominent theorists that date back to early archival theory in the

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[6] Samantha Cross, "Appraising Archivists: Documentation and the Need for Accountability in the Appraisal Process" (master's thesis, Western Washington University, 2011), 6-7.

[7] Cross, 7.

[8] Terry Cook, Forward in John Ridener, *From Polders to Postmodernism: A Concise History of Archival Theory*, (Duluth: Litwin Books, 2008.), xiii.

English-Speaking world are Sir Hilary Jenkinson and T. R. Schellenberg. Much of archival literature turns back to these two men when discussing appraisal, which not only "shows their influence" on the archivists of today, but also the "origins" of an archivist's belief system on appraisal and on decisions during the crucial step of appraisal.[9] The largest divide between Jenkinson and Schellenberg stems from appraisal. Both authors were a product of their time, and therefore present a very different theoretical framework concerning appraisal.

Sir Hilary Jenkinson

Jenkinson's *Manual of Archive Administration* was first published in 1922. Working with medieval records, Jenkinson based archival importance on the "legal character of the archives." In his first years of archival experience, he did not encounter the large amount of material that many archivists encounter today. He began his career at a time when the "types and volume of archives were relatively stable, and as a result he developed all-embracing ideals. There are perhaps exceptions to some of the statements made by Jenkinson, but it must be realized that the application of ideas to reality is never made without difficulty."[10] In reality the archivist has to make decisions based on the situation. Since Jenkinson did not experience the instability and large amount of records that modern archivists encounter, he ventured to present an ideology that could be adapted to every situation.

Jenkinson emphasized that archivists should only be a gate keeper of records. In his *Manual*, he articulates that the archivist's main obligation is the "physical and moral defense of the records' impartiality, authenticity and their resultant archive value."[11] This meant any

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[9] Reto Tschan, "A Comparison of Jenkinson and Schellenberg on Appraisal." *The American Archivist* vol. 65 (2002), 176.
[10] Richard Stapleton, "Jenkinson and Schellenberg: A Comparison,"*Archivaria* 17 (1983): 84.
[11] Tschan, 178.

process, such as appraisal, "resulted in both the diminution of their integrity and of their value as impartial evidence of the past."[12] Jenkinson did not see any reason for appraising records, because the act of making appraisal decisions would go against his definition of impartiality and authenticity of the record. Jenkinson believed that it was the archivist's role to be a guardian, resulting in a passive relationship with records. Any kind of appraisal would directly affect the integrity of the record. Reto Tschan notes, "The necessary corollary was that any alteration or destruction of the records resulted in both a diminution of their integrity and of their value as impartial evidence of the past."[13] Part of this opinion was rooted in his definition of archives in which he stressed the records custodial history, their organic structure, and their natural accumulation over time.

According to Samantha Cross, Jenkinson's goals were twofold: "the continuation of the chain of custody from administrative bodies to the user and the preserving objectivity in the role of the archivist."[14] These goals were rooted in the European school of archival appraisal which adheres to Roman legal concepts of perpetual memory. This concept magnifies the "relationship" between archival documents and the facts, "retaining the information via the document that embodies those facts and 'converting the present into the permanent.'"[15] The more relevant concept that Cross notes is public faith, which "expressed the relationship between archives and the society they serve." [16] Public faith allows for an inherent trust in the records stored in archival holdings, because documents that entered into the archives become trustworthy based on their creation and duty to carry out public affairs. The key, according to Jenkinson, was to ensure

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[12] Tschan, 177.
[13] Tschan, 178.
[14] Cross, 10.
[15] Cross, 10.
[16] Luciana Duranti, "The Concept of Appraisal and Archival Theory." *The American Archivist,* vol. 57, no. 2 (1993), 331.

that the "chain of custody" remains unbroken.[17] Jenkinson, deeply motivated by Roman law of perpetual memory and public faith, argued that archives were created for a purpose, a natural accumulation in day to day life, that the archivist should not pick and choose what is important to keep, because that would ruin a very natural process. He felt that only the creator should choose what is important to be "preserved."[18]

Even later, when discussing modern records accumulation, Jenkinson notes in his *Manual*, "Can we, faced with these modern accumulations, leave any longer to chance the question what archives are to be preserved? Can we on the other hand attempt to regulate them without destroying that precious characteristic of impartiality which results…"[19] If archivists made appraisal decisions, this would sever public faith and the chain of custody would be broken. Chain of custody was very important to Jenkinson, and he felt it directly affected public trust in the archives. His concerns with chain of custody and the collection's organic nature in the archives deeply influenced his reasoning that archivists should remain impartial. He also felt that "key to the natural development of records was impartiality on the part of the records creators. Records were created without being intended for posterity, a natural byproduct of business records."[20] Impartiality of the archivist allowed continual community trust of the records because they were created and kept without bias. Jenkinson did not want the concept of "picking and choosing" in the archives, he did not even approve of the word "collecting," for it emphasized the idea of picking and choosing what to keep. He states, the records "came together, and reached their final arrangement by a natural process: are a growth; almost, you might say, as

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[17] Cross, 10-11.
[18] Tschan, 178.
[19] Hilary Jenkinson, *A Manual of Archive Administration*, (London: Percy Lund, Humphries & Co LTD, 1937), 21.
[20] Cross, 11.

much an organism as a tree or an animal."[21] For this reason, Jenkinson did not even take the time to discuss appraisal because for him, appraisal does not exist as an archival process.

T. R. Schellenberg

T. R. Schellenberg emerged from a time of depression and war, which, in turn produced many more records than Jenkinson could probably ever have imagined in his first years as an archivist. In the 1950s, Schellenberg was "compelled to write his manual on archival theory and practice."[22] With the New Deal and the U.S. entrance to World War II, there were "new ways of dealing with and creating records as well as the creation of massive amounts of documentation of the government's activities."[23] During this time, Schellenberg was an employee of the National Archives, established in 1934, and was in charge of governmental records, which amounted to millions of cubic feet. Because of obvious issues, such as storage and budget, the archivists at the National Archives could not follow Jenkinson's theoretical framework of passivity. Schellenberg felt that Jenkinson's manual was "unreadable" and gave many archivists a "wrong start in their archival work."[24] Yet, he did not completely depart from Jenkinson's traditional archival theory. Like Jenkinson he argued that archives had an organic nature, which was responsible for much of their significance. He also "upheld" the centrality of the principle of provenance. However, Schellenberg still confronted the "bulk" of records created during the mid-twentieth century. Schellenberg advocated that the archivist should be able to reduce this "bulk" by selecting from the masses of documentation that which was permanently valuable, and to make this selection as

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[21] Stapleton, 76.
[22] Tschan, 179.
[23] Cross, 13.
[24] Tschan, 179.

"central to the archivist's role." [25] He felt that by allowing the archivist a decision making process through appraisal, the archivist would be able to better care for the records, and the users would not have to "dig though" the records to find what they need.

Unlike Jenkinson, Schellenberg believed that while records were created to "serve the need of their creator, this was not the reason why they were ultimately selected for permanent preservation."[26] In *Modern Archives,* Schellenberg stressed the need for future access and justification for the archivist's participation in appraisal of records. To Schellenberg, archives are viewed as its "own species of records." [27] He advocated that "archives are distinct precisely because they have been adjudged worthy of permanent preservation for reasons other than those for which they were originally created, that is, for reference and research purposes."[28] It was up to the archivist to also retain records that tracked the historic and cultural functions of who or what they were collecting records from. This would allow users to assess the "manner" in which each agency organized itself and carried out its "mandated functions." Archivists should also consider the "informational value" of records, which related to specific subjects "dealt with by particular agencies."[29]

In *Modern Archives,* Schellenberg explains his theory of value for archival records. To Schellenberg, the record has two kind of value: primary and secondary. Primary value accounted for the value of records to the agency that created them. Schellenberg further separates primary value into three categories: legal, fiscal, and administrative.[30] As long as any of these categories are relevant, the record's status stays primary and they are not considered archival.

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[25] Tschan, 179.
[26] Tschan, 180.
[27] T. R. Schellenberg, *Modern Archives: Principles and Techniques,* (Chicago: University of Chicago Press, 1956), 16.
[28] Schellenberg, 114-115.
[29] Tschan, 180.
[30] Cross, 14.

Schellenberg's secondary value moved the record to archival status. This was only when the creator no longer had use for the record. Secondary value was given to records when they become useful to "other agencies and private users." [31] When records reached secondary value, the archivist then became an active participant in identifying the historical and cultural functions for future users. To find secondary value, Schellenberg developed two subcategories: evidentiary and informational value. Schellenberg defines the record as having evidential value when it contains information regarding the "organization and functional of the Government body that produced them."[32] The record contains informational value when it includes information on "persons, corporate bodies, things, problems, conditions, and the like, with which the government body dealt."[33]

Schellenberg's contribution to archival theory represents a defining moment in archival history, one that can be transferred into the digital age. He justifies the need for the archivist, and he allows her or him to work for both the user and the creator. Once materials enter the archives, they enter the hands of the archivist, who then becomes an active participant in the record. Schellenberg allows appraisal to come to fruition. Jenkinson's tacit judgment is that records are "part of the creator's affairs and the reason for retention or destruction are entirely their own, while Schellenberg advocates selection based on the value of records and perceived research needs of those other than the creator."[34] Schellenberg's felt that separate "species of records" allowed for a value of future interpretation from archival users.

Schellenberg and Jenkinson arrive at very different conclusions on how to approach archival appraisal. Thus, this begins an issue of the fundamental ideologies on archival theory:

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[31] Schellenberg, 133.
[32] Schellenberg, 180.
[33] Schellenberg, 180.
[34] Tschan, 183

Who can make decisions. Jenkinson considered only the creators were capable of legitimately destroying records, Jenkinson was reluctant to intrude in this process. The only appraisal that Jenkinson arrived at was an "appraisal" that stemmed from inherent value archive through the "maintenance of impartiality and objectivity" without interfering with that natural organic process of archives.[35] Schellenberg, by contrast, discusses categories of value and the need for an archivist to play an active role in decision making of transforming the record into an archive to future generations of archives. It is evident that the archivist needs to play a greater role than solely a "gate keeper" of records, but how can archivists turn this theory into everyday practice and keep it relevant? The introduction of an avalanche of records brought forth by Depression and Second World War is only a fraction of what the late twentieth century would bring.

Schellenberg's both exciting but exceedingly vague outline for archivists to play a more prominent part in the archives, allows for archivists to continue the conversation about appraisal, and the archivist's role in such process. Perhaps Schellenberg was vague because he recognized the difficulties his theory presented. One major issue, that Jenkinson was trying to avoid all together, was the matter of objectivity. Schellenberg notes "an archivist, no matter what his training, will appraise primarily on the basis of their historical value or interest."[36] Schellenberg regards this as a valuable trait for archivists to have, believing that archivists will always make the most logical, intelligent decisions because training in history will contribute to the decision processes by allowing the archivist to document the "less obvious historical movements and persons." [37] This might be Schellenberg's greatest weakness in his theory. How are logical, intelligent decisions defined? Is there a method in making the right decisions for every situation

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[35] Cross, 16.
[36] Schellenberg, 150.
[37] Tschan, 182.

in the archives?   Unfortunately, it is impossible to turn off each individual's own interpretation of this definition.

Jenkinson spoke of the archivist's aim "to provide, without prejudice or afterthought, for all who wish to know the Means of Knowledge," and Schellenberg referred to archivists as "guardians of the truth."[38] It is comforting, then, to conclude on a note of fundamental agreement. Archival theory and practice in the English-speaking world "does not begin and end with Sir Hilary Jenkinson and Theodore R. Schellenberg, but they have contributed greatly to the maturation of the profession. If for no other reason than this, their ideas deserve to be reviewed over and over again."[39] While Schellenberg develops a process of appraisal and allows for discussion of importance, he does not have all the answers for the appraisal process. While a turning point is visible with new archival theory, it is only the beginning of dialogue that still continues today.

Beyond Jenkinson and Schellenberg

Major archival questions continue to plague the profession after Jenkinson and Schellenberg contributed their archival theories. Many American archivists tend to follow a version of Schellenberg's theories more than Jenkinson's theory of archivists being the protector of records. Yet, many archivists still continue the discourse on the archivist's role in the archives. Do they follow Jenkinson and believe appraisal or destruction of some of the "bulk" of modern records to be "anti-archival"?[40] Does the "disagreeable task" of appraisal directly affect impartiality? Does it matter?

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[38] Tschan, 183.
[39] Stapleton, 84.
[40] Tschan, 185.

The lack of funds, space, time, and eventually access is an overreaching issue in archives, leading to more discourse on the role of archivists and their holdings. The issue of the "bulk" of records will not go away. In fact it inflates as creators increasingly find new media that is invisible to the naked eye to write down their thoughts, keep their personal and business records, and store them. Schellenberg was indeed on to something. His concepts of evidential and informational value may have led to dissatisfaction such as that heard from Gerald Ham, who rejected his "narrow acquisition policies" and argued that the "archivist's task should be to preserve as complete and faithful a picture of the whole of society as possible," and from Hans Boom, who called Schellenberg's values "archival futurology," with archivists attempting to be "clairvoyants."[41] Yet Schellenberg's words did leave a positive impact on many archivists. As Richard Stapleton notes, "it is difficult to imagine a present-day archivist working with modern public records who would deny the necessity of the archivist's involvement in appraisal, and Schellenberg's thoughtful, well-presented treatise remains the standard work on this subject." [42] This is the strength of Schellenberg argument. While his theory regarding appraisal and archives is general, it's coupled with opportunity to continue this discussion and further implement new appraisal approaches that are malleable to each individual repository mission statement.

Through this opportunity, archivists such as Frank Boles and Julia Marks Young, began developing new methods of appraisal in the 1980s. Boles and Young noted that by this time, appraisal was "acknowledged as an essential archival function" but is a "complex process that is not fully understood."[43] Recognizing that appraisal was a necessary process, they offered an

[41] Tschan, 188.
[42] Stapleton, 83.
[43] Frank Boles and Julia Marks Young, "Exploring the Black Box: The Appraisal of University Administrative Records," in *American Archival Studies: Readings in Theory and Practice,* edited by Randall C. Jimerson, (Chicago: The society of American Archivists, 2000), 121.

"alternative" model to address some of the problems in the "widespread use of Schellenberg approach." Calling their project the "Black Box" and working with institutional records, they developed an appraisal model that allowed for "diverse acquisition mandates" by creating three categories that should be assessed when appraising these materials. The first, "value of information," echoed Schellenberg's request that records should be kept to allow for knowledge of the "position in organization," the organization's significance, and the "principal activities of the records creator." The second appraisal category allowed the archivist to take into account the "costs of retention," such as for processing, storage, and reference. Their last category allowed for "the political and procedural implications of the appraisal recommendations."[44] According to Boles and Young, these categories are cumulative. Appraisal should not be judged on only one of the categories. As archivists, there needs to be impartiality to some degree, but not to the point of being passive when it comes to keeping records in the archives. These three categories allow for the archivist to perform a system of checks and balances while appraising.

As Robert Sink states in his article recounting the years after this model was introduced, Boles and Young provided a "major breakthrough" by introducing their model and simultaneously allowing for archivists to test their model and discuss appraisal issues at their own repository.[45] A NHPRC funded project allowed for an initial test through a case study at the New York Public Library (NYPL) in 1987. The case study met with mixed results. Boles and Young developed thirty-eight appraisal questions and a "methodology for rating the answers on a numerical scale."[46] The case study concluded with the development of "heavily weighted" questions developed by the participants of the case study that were relevant to their repositories

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[44] Boles and Young, 123.
[45] Robert Sink, "Appraisal: The Process of Choice," *American Archivist,* Vo. 53, (1990): 455.
[46] Sink, 453.

and specific needs. The participants were then put into groups of six with a supervising staff member and given a collection work through the module and to complete a worksheet. While the experiment showed progress, it also showed that in order to reach "universal theory" on appraisal, there needs to be a clear articulation of the fact that appraisal is not a single action to be applied to a group of records at a single point in time.[47]

The "breakthrough" of the "black box" experiment may have encountered some difficulties, but it was a step in the right direction. This model allowed for a system of checks and balances to help archivists make the most logical and intelligent decisions for their collection. Schellenberg only assumed that archivists would not make decisions based on personal gain or specific interest. According to Samantha Cross, the case study revealed the resistance of "archivists to assign quantitative value to materials as opposed to values based on intuition and common sense. Schellenberg's opened ended interpretation of informational value ultimately left archivists with an assumed superiority of knowledge over what was worthy of remaining in the archive or what was worth destroying."[48] This resistance of archivists to quantitative value to materials impedes not only a universal theory for appraisal, but also provides fuel for resistance in working for a common goal. Boles and Young introduced a model that potentially would not only help in appraisal, but also work towards a common goal within the archival community, access. As Cross notes, "The human element in archives, while its greatest asset, it also its greatest enemy."[49]

Another approach was introduced by Helen Samuels through "institutional functional analysis" beginning in 1986. Samuels advocated "knowledge of what is to be documented" to

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[47] Sink, 456.
[48] Cross, 20.
[49] Cross, 20.

fully understand the appraisal process. This knowledge included the ability to identify "what

records were and were not being produced by a particular creator of societal phenomena whose

inclusion in the documentary heritage was considered important."[50] Samuels did not believe

Schellenberg's criterion for appraisal, feeling it was just "subjective guesses" of what might be

considered important in the future. Many archivists are challenged by modern institutions and

their technology. Samuels notes, "Archivists are challenged to select a lasting record, but they

lack technologies to support this decision making. Documentation strategies are proposed to

respond to these problems."[51] Samuels approached enabled documentation through outlining the

following plan:

> A documentation strategy consists of four activities: (1) choosing and defining
> the topic to be documented, (2) selecting the advisors and establishing the site
> for the strategy, (3) structuring the inquiry and examining the form and
> substance of the available documentation, and (4) selecting and placing the
> documentation.[52]

While Samuels allowed for a more holistic capture of the records, value-importance was still a

judgment performed by the archivist. Samuels scoffs at Schellenberg's evidential and

informational values while simultaneously creating the same process with different titles.

According the Tschan, "the shift in focus from record to provenance did not solve the problem of

identifying value, it merely shifted level at which relative importance was to be determined."[53]

Others have created appraisal methods. Conceived by Terry Cook, macro-appraisal is an

alternative method to document people and government.[54] Cross notes, "essential to macro-

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[50] Tschan, 189.
[51] Helen Samuels. "Who Controls the Past," *American Archivist,* vol. 49. No. 2 (1986): 109.
[52] Samuels, 116.
[53] Tschan, 189.
[54] Terry Cook, "Building an Archive, Appraisal Theory for Architectural Records." *American Archivist,* vol. 59 (1996), 137.

appraisal is determining the function of the records creator based on the purposes and intents of the creator and the structure of the creator, or the actions of others."[55] Cook is hesitant and somewhat critical of methods of appraisal that seek to find "value" of material for "anticipated" research purposes. Instead, he would rather focus on value as finding evidence of "functions, programs, transactions, and structures of the records or creators."[56] Finding the "functionality" of the records allows archivists to establish context for the agency, the record, and its creator. It also allows for the archivist to find connections between other collections that may be housed in the same repository. This "top-down" approach allows for two levels of appraisal. The first level is the "assessment of which records-creating entities were most important" and second, the "assessment of internal functions and structures *within* the records-creating entity that had importance."[57] Through a functional analysis, Cook argues that the archivist is given the ability to strategize her or his archival processing while giving a theoretical framework to "cope" with the "bulk" of records of organizations.[58]

Jenkinson and Schellenberg are continually addressed in classes on archives and when making important decisions in repositories. They are the foundation on which all subsequent archival theory is based. While many archivists now are reliant on appraisal for decision making regarding their mission statement, space, and budget, there is still a deep wedge in the archival profession across the world concerning appraisal. In modern repositories, appraisal must be done. There is simply not enough time, space, and money to keep everything. Yet, what is to be kept, why, and who should appraise are questions that appear (and should) frequently in archival discourse. The reason archivists continue to introduce new methods and adopt new theoretical

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[55] Cross, 23.
[56] Cook, 139.
[57] Cross, 24.
[58] Cook, 142.

frameworks, is because the question of appraisal is nearly unique with almost every repository, every collection, so that standard methodology cannot always be applied. What this all culminates in the end is that the archivist needs to make decisions, and approaching the records as a passive "gate-keeper" will not suffice in the era of born-digital material.

Chapter II

Adding to the Conversation: Appraisal of Digital Material

Records creators have hit a new phase in records creation with the introduction of technology. Creators now have many mediums, such as through social media, blogs, within GoogleDrive and the like, in which they can now record their thoughts, conduct their work, and communicate. Now, archivists are just beginning to see the impact of that technology on archival holdings. The late twentieth century and early twenty-first century has been going through another transition in output of records, much like Schellenberg experienced at the onset of World War II. This now includes personal records as well as government and business records. A codependence with technology is now human nature.

The more ways records can be created through technology, the more records that are accessioned into the archives. Archivists are challenged with "selecting, appraising, preserving, and providing access to records of continuing value created by organizations and individuals in the course of ongoing activity."[59] Records creators are adopting "increasingly diverse" mediums for records creation. From Microsoft Office to YouTube, our lives have become immersed in digital records that are stored in a computer or an offsite server. Many collections now come with a hard drive or records stored in the cloud. While it seems that the cloud or servers will be able to pull a Jenkinson and allow the archivist to keep whatever is ingested into the archives, this cannot be the case. Records creators are now able to publish thoughts as easily as pushing a Facebook "post" button. Must we keep every interaction conducted on technology? The answer

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[59] Susan E. Davis, "Electronic Records Planning in "Collecting" Repositories." *The American Archivist* vol. 71 (2008),183.

is not very easy. Archival decisions on appraisal are not as black and white as Jenkinson

portrayed it in his early writing. Issues with appraisal have only inflated in recent years.

Technology has introduced many more facets in appraisal that include issues of both access and

preservation before an appraisal can even be conducted.

Charles Dollar, in his address to the 1992 International Congress on Archives in

Montreal, states:

> This change [in appraising electronic records] is not a refinement of slight
> tinkering to accommodate new realities, but a reorientation in what archival
> paradigm...We must get our archival heads out of the sands of practice
> devised for medieval charters and papal decrees. We must realize that
> clinging to old practices in light of the volume of new records is *not* a noble
> defense of principal or archival tradition, but an act of willful neglect. [60]

Dollar brings up a crucial point to a new era of archival appraisal. According to Philip

Bantin, "The emergence of electronic records, in conjunction with the volume of modern

documentation and the changing nature of modern institutions, has initiated considerable debate

on the theory and practice of archival appraisal."[61] The debate continues into two different forms

of adapted archival theory for this new era. The Life Cycle and Records Continuum models are

two forms of theory pertaining to handling electronic records in the late 1990's, two that seem to

conflict in how to conduct appraisal of electronic records.

The Life Cycle Model has been promoted for analog records since the 1940s. This model

"portrays the life of the record" as going through various "stages, much like a living organism."[62]

In stage one, the records are created. It is presumed that the records are created for a legitimate

reason and standards. In stage two, the record is considered "active," and it at its "maximum

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[60] Cook, "Building an Archives," 137.
[61] Philip Bantin, "Strategies for Managing Electronic Records: A New Archival Paradigm? An Affirmation of our Archival Traditions?" *Archival Issues* vol. 23 no. 1 (1998), 8.
[62] Bantin, 3.

value" when it is used by the creator in decision making processes. At this time, the record is kept in office files or stored by the creator onsite. By the end of this stage the record is either destroyed or transferred to stage three which is when the record becomes "semi-active." At the end of stage three, a decision is made to either destroy the record or send it to stage four. In stage four, the record becomes inactive but is stored because it has "long term, indefinite, archival value."[63] The main supporters of this method in North America are archivists at the U. S. National Archives and Records Administration and the University of British Columbia, as well as most records managers. This concept is consistent with Jenkinson's theoretical framework as well as Schellenberg's concepts of appraisal.

The other model used for electronic records in North America is the Records Continuum Model. A records continuum is "…consistent and coherent regime of management processes form the time of the creation of records (and before creation, in the design of record keeping systems) through to the preservation and use of records as archives"[64] Developed in Australia by Frank Upward and Sue McKemmish, Bantin states, "criticisms of the life cycle model as means of managing records have surfaced at times in the past, but has been the emergence of electronic records that has initiated a very spirited debate." It was not until 1990s that this model was formally constructed. This model views records management as a continuous process from the moment it is created. Archivists and records managers are thus involved in every stage of the records process, making it a "continuum" of participation. This is the largest and most basic difference between the Lifecycle model and Records Continuum model. [65] It also directly

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[63] Bantin, 3.
[64] Xiaomi An, "An Integrated Approach to Records Management," *The Information Management Journal* (2003), 24.
[65] Bantin, 6.

dissolves the difference between active and inactive records. Because of this, archivists are able to strategize and test methodologies for appraisal, and other archival processes.

When comparing the Life Cycle Model to Continuum Model as it relates to archival appraisal, there is one major difference. The continuum "fundamentally changes the role of record keeping. Instead of being reactive, managing records after they have been created, record keeping becomes proactive."[66] This means a partnership is formed with the records creators. In the Records Continuum model, archivists and records managers work with records creators to identify which records of organization activities need to be kept. After this identification or initial appraisal, business systems are designed with "built-in record keeping capability," and ensures that records of evidential value are retained as they are created.[67] With the Records Continuum Model, appraisal begins before records are even created and continues until they are transferred to the archives. In the Lifecyle Model, records pass through a series of stages. Unlike the Continuum Model, appraisal for archival value occurs only determined when the record is in its "semi-active" stage.

Even though archivists vary on the kind of appraisal they wish to initiate for their archival holdings, most archivists agree that archivists do need to make decisions regarding their electronic records. Bantin states, "Overall, there is general agreement that in the modern world of high volume documentation and electronic records, archivists must focus on the concept of preserving evidence of functions and activities."[68] Yet, as with analog materials, archivists tend to divide themselves on the concept of why appraisal of records is done. Should these records be appraised through the concept of future value or based on their functionality within records as

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[66] An, 27.
[67] An, 27.
[68] Bantin, 13

whole? Specifically, is the "archivist's primary contribution ... to preserve authentic and impartial records" so that the researcher can interpret "events" in their own way? Or should the archivist's primary contribution be a more active role in "shaping the documentary" record as in Terry Cook's macro-appraisal or Helen Samuels's "Documentation Strategy."[69] This continual divide allows for "no shortage in writings on the proper role of appraisal" in archival theory and methodology. This divide thwarts practical methodology and the opportunity to gain important practical technical knowledge needed to handle this material the moment it transitions into the archives. Bantin notes, "One of the most significant and widespread changes has been the growing recognition that the first and primary goal of appraisal must be the preservation and accessibility of the evidence of the functions and activities of the subjects documented by archivists."[70] In other words, if this material does not receive continual support by archivists, archival theory on appraisal will not matter because the material will no longer be easily accessible to anyone.

One of the major issues with having born-digital or even digitized items in the archives, is the issue of computer literacy. Education in the computer sciences is becoming more and more a prerequisite when dealing with these types of records. Computer literacy for archivists can be defined as "the skill to use computers, the knowledge of computer functions, and the understanding needed to communicate effectively with electronic data processing personnel and others about electronic records."[71] Linda Henry wrote on this topic in "An Archival Retread in Electronic Records." While this article isn't solely focused on appraisal, it encompasses the difficulties many archivists have in grasping the knowledge needed to even access these records,

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[69] Bantin, 10
[70] Bantin, 11
[71] Linda Henry, "An Archival Retread in Electronic Records: Acquiring Computer Literacy." *American Archivist* vol. 56 (1993), 516.

much less view them for appraisal. She states, "my ignorance about computers was vast when I joined the staff at the National Archives Center for Electronic Records in 1991...I lacked…the Foundation Cluster of Learning objectives."[72] These objects included basic knowledge of system automation, such as knowledge of hardware and software, methods of storing media, computer program knowledge, and means of preserving data. The caveat to this education is that computer education never stops, not even for the most experienced archivist. Technology changes so quickly that archivists must continue to learn. One technological medium can change drastically within months; just look at Facebook and its ever changing interface. This kind of education should not be avoided. Archivists need to actively participate in computer literacy training that is relevant to their work and to their repository. While Henry wrote her article early in the technological transition of archives, her advice is still relevant today. Archivists must continue to learn how "to communicate effectively" in this world.[73] That being said, archivists need to learn to communicate with not only records creators, but also IT professionals in our collaboration to create effective tools to help with not only appraisal, but preservation and access. To make the appraisal process more effective, good communication between all who work with digital material must take in account the mission statement to make sure it is in accordance. They must also take into account storage space, budgetary requirements, and access.

Since Henry's article, technology has reinvented how archivists accomplish their work. Technology has become a fluid process, changing frequently to suit user needs. Because of this, in the past twenty-five years, the archival "profession has faced cumulative changes affecting both the nature of archival holdings and the tools used to manage them."[74] Henry was able to

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[72] Henry, 515
[73] Henry, 521
[74] Davis, 167

foreshadow this shift, and now it has become even more necessary to be able to effectively communicate in the technological world and grasp basic understanding of computing relevant to archivists.

Many archivists wrote about the predicament of digital records in the 1990s and early 2000s. Lucie Paquet's "Appraisal, Acquisition, and Control of Personal Electronic Records" examines the practical aspects of handling electronic records. Much like Henry's article, it attempts a direct emphasis on theoretically dealing with this material. Mark Greene, who co-authored a revolutionary article on "More Product, Less Process (MPLP),"[75] added to the conversation of appraisal of electronic records, if not directly, when discussing MPLP and its place in the appraisal process. Appraisal, or lack of it, plays a large part in contributing to the backlogs that "plague U.S. repositories." In 2004, one third of repositories in the U.S. reported their holdings consisted of two-thirds backlog of unprocessed archival material. This is just for analog material. It is apparent that many repositories do not "do much if any appraisal when they acquire collections or records groups."[76] Appraisal as a theory still is a conversation among archivists. Greene cites Barbara Craig, who states "it would be misleading to say that archivists have universally embraced the necessity of selective retention. Many have neither easily nor quietly accepted the role of selector."[77] If the very foundation of appraisal is not solid, it is understandable why the "plague of backlog" occurs. While this is an issue of storage for analog materials, the problem of backlog is even more problematic when it comes to digital records. While analog materials will degrade over time, they degrade at a much slower rate than digital

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[75] Mark Greene and Dennis Meissner, "More Produce Less Process: Revamping Traditional Archival Processing," *The American Archivist* Vol. 68 no. 5 (Fall/Winter 2005):208-263.
[76] Mark Greene, "MPLP: It's Not Just for Processing Anymore." *The American Archivist* Vol. 75 (2010), 176.
[77] Greene, 177.

materials. Electronic material can simply disappear or become "unreadable" and out-of-date, gone forever.

One specific study on the appraisal of electronic records is the InterPARES project, more specifically its Appraisal Task Force, which started research in the early 2000s regarding the predicament of electronic record appraisal. The task force set out to determine if archival appraisal theory and methodology differs from that of analog records. Collaborating with other InterPARES task forces, they planned to answer several questions in "Domain 2" of their investigation. Several inquiries included influence, such as, "what is the influence of digital technology on appraisal" or "What are the influence of retrievability, intelligibility, functionality, and research needs on appraisal?" Other questions involved who should be responsible for appraisal, how many times the digital material should be appraised, and what "criteria" and "methods" should be used. [78] It is important to note that Luciana Duranti, professor and chair of the Masters of Archival Science at University of British Columbia (UBC) and chair of the InterPARES project at UBC, stands at the Hilary Jenkinson end of the spectrum, and this theoretical framework and methodology is reflected in this project. In other words, this project is based on the interpretation that, the "archivist's goal is not to interpret this evidence [the archival record], attribute external values to the records or to the creators or functions generating the records, or create a representative image of society."[79] Rather, it is the archivist's goal to preserve "authentic and impartial records" allowing researchers to interpret items themselves. Therefore, this project assumes that the archivist's appraisal process is of custodial and

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[78] Duranti, Luciana. "Rethinking Appraisal: Conference Proceedings" Accessed on February   3rd, 2014.
http://www.interpares.org/display_file.cfm?doc=duranti_delos_2007_overview.pdf
[79] Bantin, 10.

preserving purposes: non-judgmental and non-interpretive. [80] Duranti echoes Ken Thibodeau's

words, when defending the "Life Cycle" approach:

> The only properties of the records that we archivists should assess are the characteristics of authenticity, impartiality, naturalness, interrelatedness, and uniqueness, because the existence of the archival bond...provides the records with equal value with respect to each other. Thus, to destroy a part of the aggregation means to hurt the integrity of the whole and change the meaning of its parts. [81]

Basing its project around this theoretical framework, the Authenticity Task Force used its own

Template for Analysis to help guide this theoretical framework during their research.[82]

Determining that the function that they were analyzing was "broader than simply appraisal as

traditionally understood," they decided to encompass both "appraisal decision making" and the

"disposition of records." [83] Three methodologies were used in order: (1) a review of the literature

on appraisal of electronic records, (2) a study of archival policies procedures, methods and

appraisal reports, and (3) modeling of the activities involved in the selection of electronic

records.[84]

One of the biggest questions tackled in this research was when electronic records should

be appraised. Records stored on technology devices have the potential to lose information.

Discussing creator's choice to delete certain items from a collection, Terry Eastwood cites Trudy

Peterson stating, "we all know that paper records are lost because records creators throw them

away, but it normally takes a certain amount of decision making to haul files from a file drawer

and dispatch them to the trash."[85] Yet with many electronic records, records deletion may not be

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[80] Bantin, 10.

[81] Duranti, "Rethinking Appraisal: Conference Proceedings," 2-3

[82] Eastwood, Terry et. al. "Appraisal Task Force Report" InterPARES Project. Accessed December 8th, 2013. http://www.interpare s.org/book/interpares_book_e_part2.pdf ,4

[83] Eastwood, 1.

[84] InterPARES. "Goals and Methodologies." Accessed on May 8th, 2014.
        http://www.interpares.org/ip1/ip1_goals&methodologies.cfm

[85] Eastwood, 7.

a choice. Whether born digital or stored on machine readable devices, degradation will take place over time, potentially leaving the files unreadable.

Because technology changes so fast, electronic material, if stuck in backlog, will cease to exist or at the very least have portions of its metadata disappear, leaving holes in the records. Mark Greene calls for more active participation from archivists, stating that archivists and "archives should know in advance what sorts of collections/records groups it seeks and declines to spend time with others. Acquisition decisions should not be based on a case-by-case basis, but on well-planned policies that approach the documentation universe broadly…" [86] In other words, Greene calls for precise policies regarding appraisal decisions that directly correlate to a repository's mission statement. This should directly affect the appraisal process of digital records, only picking the born-digital material that correlates with the mission statement. Yet, it is not that easy. The abundance of literature on electronic records "seems to confuse archivists more than assist them, not least because so much focuses on theory and definition, rather than on method and practice."[87] This is where theory and practice becomes a grey area when appraising born-digital material. Whether born-digital or not, many repositories pride themselves on the uniqueness of their material. The development of new records creation mediums amplifies this uniqueness. Much of the scholarly material concerning appraisal either theorize in the abstract or they produce specific theory regarding a case-study at a single repository using specific collections. Unfortunately these theories may not work for certain repositories. Many archivists are new to working with born-digital material, and they are aware of the sense of urgency to appraise and process born-digital for preservation and access issues. The fear of losing access born-digital material from degradation and/or advanced technology is a very real concern. This is

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[86] Greene, 179
[87] Greene, 192

why interest in practice and method of how to process archival born-digital material currently takes precedence. In many cases, repositories will decide that practice and methodology will precede development of theory within the archival profession that is malleable to repository needs. In other repositories, a greater importance on theoretical development of processing born-digital material will precede practice. It is important to note that this will depend on each repository's mission statement, the quantity of born-digital material, preservation and access needs, and user demand of the records when assessing theoretical and practical issues when working with born-digital collections.

Those who have approached born-digital archival appraisal from a theoretical standpoint contemplate what how appraisal should differ or stay the same when processing born-digital material. As in Henry and Paquet's articles, Greene discusses electronic records and computer literacy from a theoretical standpoint, addressing questions like "Why should appraisal and description of electronic records be needed?" or "Why should this appraisal be any different from that applied to analog material?"[88] It seems logical to examine all possibilities. This brings up the question: Can MPLP apply to electronic records?

The idea of processing collections at a less precise level and limiting description of archival collections to only what is necessary can be transferred from analog collections directly to electronic records. Electronic records are far more fragile than their paper based counterparts, and leaving them un-processed while an archivist creates a long and eloquent description endangers the record.[89] Gregory Johnson applies MPLP theoretical standards to electronic records, purely because of necessity.

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[88] Greene, 192

[89] Gregory P. Johnson, "Quality or Quantity: Can Archivists Apply Minimal Processing to Electronic Records?" Master's Thesis, University of North Carolina, April 2007, Accessed December 13th, 2014. http://etd.ils.unc.edu/dspace/bitstream/1901/413/1/gregjohnson.pdf.

Yet, development of theory for electronic records almost impeded practicality in the 1990s and can even be seen today. Some archivists fail to recognize the "urgency of the problem." [90] This is partly due the fact that technology and born-digital records creation are fairly new. Many of those who partake in this kind of records creation have records that may not be transferred to archival holdings for years to come. According to Richard Pearce-Moses in his address at the SAA meeting in 2005, "The brewing storm is not always readily apparent in archives because the flood of electronic records has not yet reached the archival threshold. Some archivists have been heralding the coming storm for years [such as the archivists writing in the 1990s]. For many others, however, the work at hand prevents them from recognizing the potential impact of the digital hurricane...they haven't come face to face with the rising storm of tide."[91]

The vast majority of digital records will never become analog. They need to be appraised and acquired while they are still accessible. This means that it *must not* be added to the analog backlog in the back of the stacks. Even if they are accessioned into the archives as inactive, they must be appraised at least for preservation needs. Much of the work in these situations, including Greene's article, has come from academia and has been conceptual and theoretical. Much of this, as Pearce-Moses notes, is invaluable. This literature has given a sense of what needs to be done, but it does not give adequate advice about how to do it.

Since 2005, there has slowly been a shift from the theoretical to the practical. Archivists do not need to become professional programmers, according to Pearce-Moses, but they need to "find the right balance of expertise in respect to the medium and the message." It is important to

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[90] Richard Pearce-Moses, "The Winds of Change: Blown by Bits." Speech, New Orleans, August 19, 2005. Society of American Archivists: http://www.archivists.org/governance/presidential/rpm2005.pdf
[91] Pearce-Moses, 2.

be practical in what should be learned. What is relevant to the repository that is budget friendly and will also allow process to be more efficient? It will be a challenge to "discern what is arcane from what is essential, and we cannot assume that anything alien or complex...is necessarily arcane."[92]

It is clear that appraisal needs to be translated and adapted to the digital world. An incredible amount of interaction occurs on the web. Archivists must ask themselves how they want to track these interactions. They must make decisions based the individual collection. Christopher Lee notes, "In the realm of collecting traces of individuals on the web, the archivist should decide whether it is the content of particular digital objects that is most important, or instead the transactional information associated with the posting, exchange, and use of the objects that matter."[93] Lee brings up a very important point. Once archivists locate, preserve, and access technology used to create such digital objects, the dilemma is how and what electronic data should be saved? Take the Library of Congress's ingesting and archiving of all tweets on Twitter. It seems ridiculous to save every single tweet. Yet, this is where Lee's point is valuable. The Library of Congress is archiving interaction within this born digital material. By saving every tweet, the Library of Congress can translate social changes, opinions, and interactions through hashtag interaction (i.e. #archive). According to the Library of Congress blog, "twitter is a new kind of collection for the Library of Congress but an important one to its mission. As society turns to social media as a primary method of communication and creative expression…"[94] By tracking these interactions, as mundane and excessive as it seems, the

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[92] Pearce-Moses, 4

[93] Lee, Christopher. "Collecting that Externalized Me: Appraisal of Materials in the Social Web" in *I Digital: Personal Collections in the Digital Era* edited by Christopher Lee, (Chicago: Society of American Archivist Press, 2011), 222.

[94] Erin Allen, "Update on the Twitter Archive at the Library of Congress," *Library of Congress*. Accessed February 12, 2014. http://blogs.loc.gov/loc/2013/01/update-on-the-twitter-archive-at-the-library-of-congress/.

Library of Congress seems to have decided on the latter choice that Lee presents. The goal for the Library of Congress is to make sure that these tweets will remain in working order with the ability to track such hashtags. Only then, will this be holistically useful for the researcher.

Lee also outlines the three "factors" that make the appraisal of personal archives from the web (born-digital objects) "dramatically different" from the appraisal of material from the homes and offices of these individuals. Lee outlines three factors that hider appraisal process when dealing with born-digital material on the web. The first factor, simply, is the "massive volume" of content on the web generated by an individual. The second factor involves the creator's access to the "ability to harvest and collect" from a large and "diverse population" of other creators. That last factor is the "unlikelihood" that an archivist or even the records creator will be able to "identify and collect all or even most of the individual's most valuable and representative materials from a "disturbed and unintegrated "cloud' of services and micro-conditions."[95]

I encountered Lee's factors first hand during my encounter with my project appraising a born-digital collection. While this collection was created largely before the explosion of social media, I realized early on that this type of appraisal would be very different from that of the analog material I had previously processed. This collection has 69,000 born-digital documents, not including the analog material, much of it being inaccessible on a modern computer. Many documents, after being converted for access, pointed to Lee's second factor of the ability to harvest information from many creators. It was very evident that some of the content that was saved on the creator's hard drive was copied and pasted into word documents from websites. The appraisal decisions and questions led to the authenticity of the document, its true creator, and copyright issues. Authenticity and copyright are very real concerns in the digital age. Lee's third

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[95] Lee, 222.

factor also is a real concern, a concern that primarily affect archivists in the future. At present, aside from documents, digital photographs, and digital video technology, many archives have yet to experience working with born-digital material in the cloud. Many archivists will not only have issues of access and appraisal because of outdated technology, but also concerns on where the material is located and if they can access it to add to the collection. This is where access, perhaps, becomes even more valuable to both the archivist and the user. If the born-digital material is inaccessible because it is stored on a password protected server, and the creator is unable or unwilling to provide access, the collection will be incomplete, neither allowing the archivist to preform basic processing, including appraisal, nor allow users to fully gain the information they need.

Unlike many of the publications in the 1990's, which predicted a "digital storm" in the future archives but did not suggest any practical methods to help in appraisal of this material, Lee does give some practical advice about born-digital content on the web and appraising such material for individual archival collections. Like approaches suggested in earlier discussions of archival appraisal such as Jenkinson's hands-off policy, Schellenberg's informational and evidential values, and other approaches such as macro-appraisal, MPLP, and documentation strategy, Lee offers an approach for born-digital content on the web. Archivists, in traditional archival practice, have dedicated a "relatively large amount of effort" to materials donated by a "relatively small number of individuals who are deemed to be especially important."[96] In other words, traditional approaches, as a whole, have practiced what Lee dubs as "depth-first" appraisal of individual archives. Yet, there is value to another approach, labeled "breadth-first" appraisal, when attempting to appraise an individual's "persona" on the internet. The model of

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[96] Lee, 228.

"breadth-first" appraisal is based on locating and identifying "specific selection criteria" that are "likely to yield a substantial body of valuable material that are of or by individuals but without focusing on the individuals themselves as the primary unit of collecting." [97] This is an interesting concept, which can be seen in the Library of Congress's capture of all tweets. This strategy, in the case of the Library of Congress, will likely result in "collections that reflect many more voices than the traditional collecting of relatively large collections from few individuals."[98]

This concept may not fit every repository's needs or mission statements, but it may help with weeding out "deemed unnecessary files" located on external hard drives and other storage devices. This brings up the question of what should archivists collect? The number one goal is to provide access. Will mining born-digital material in this way affect access, provenance, and research abilities? Not if done right. Lee suggests that this is simply another way of looking at archives. He states, this concept "need not violate the archival notion that collections should provide provenance and other contextual information. New forms of archival description could provide information about the authors, sources, and various other aspects of the provenance of items."[99] Lee turns the appraisal of this material on its head. The question shifts from "how do archivists appraise" to "what should archivists appraise."

Asking the question of what should be appraised instead of how archivists appraise may mean that archivists now have to play an even more active role in the appraisal process. Jenkinson could not have imagined the age of born-digital records creation. There is absolutely no way an archivist cannot appraise born-digital material. Born-digital material needs to be constantly reappraised for access purposes, much less arrangement and description. An

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[97] Lee, 228-229.
[98] Lee, 229.
[99] Lee, 229.

archivist's work with a born-digital collection never ceases. Lee's notion of asking what instead

of how will allow the archivist to better serve the archives and its users by data mining certain

aspects of the collection when needed.

Chapter III

The Born Digital Predicament: Interviews with Current Archivists

I feel that conducting interviews was my only option to gain advice about the predicament of appraising born-digital material in real time. My experience has been that when trying to seek advice, instruction, or new methodology, scholarly journals have been less helpful for up to date information. Many of the articles I read were valuable from a theoretical perspective, allowing me to understand the flow of discourse on born-digital material throughout the years. However, I needed instruction and advice for the practical side of appraising born-digital material. Unfortunately, much of the published material, even if published only six months ago, was already outdated on digital methodology. Yet, through some of the SAA ListServs and speaking with other archivists, including my project supervisor, I knew that a handful of archivists were working on various projects that included developing practical methodology and tools for processing born-digital material.

Fueled by the need for practical and real time advice, I decided to conduct interviews with those interested in the same appraisal questions in which I was interested. I wanted to see if they were using third party help for appraisal and other archival processes, what kind of collections they working on, how they appraised born-digital material, institutional policies for appraisal, and what kind of advice they could give new archivists working with born-digital material. I found these archivists through Twitter. Many archivists, through the last few years, have connected on Twitter as a platform to ask questions, give advice, develop policy and new theories, and simply connect with other archivists. In 140 characters, I called for other archivists to participate in my interviews. While many archivists did not have experience in working with

born-digital material, many retweeted my call for participants, and I sourced almost three-quarters of my participants from this single tweet. What this proved to me was that a real dependence on technology has developed. In fact, without social media and e-mail, I would not have found a single interview participant in the short amount of time that I was able to spend looking for participants.

All of the participants that I interviewed were archivists that are known in the profession for their interest in this archival predicament.[100] All participants are involved in working with born-digital material first hand, and they have contributed their experiences in reports and scholarly journal articles. Most of the participants, if not connected directly through Twitter, were recommended on Twitter by many other archivists within the profession who are interested in the born-digital appraisal topic.

I also used technology to interview, using a mini USB recording, my telephone, and Skype. This gave me a real sense of urgency to speak with those working with born-digital material because I did not want the majority of the material to continue to sit unprocessed and in a state of degradation. Also, if a collection that was accessioned in 2006 has 69,000 born-digital items without the presence of social media and other newer technology, how many born-digital items will be included in a collection five years from now, twenty years from now, one hundred years from now? Contemplating the rapid changes in technology gives great anxiety looking into the future.

By interviewing in real time, I felt I could avoid the problem of obsolete technology. Yes, their methodologies will probably by the time this research thesis is completed, but it is important to remember that when working with born-digital material, archivists must live in the

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[100] See Appendix III for participant biographies.

present and the future, performing tasks that are urgent while remembering that born-digital

material must be consistently monitored.

I interviewed ten archivists from the United States, Canada, and New Zealand in varying

stages in their archival careers.[101] I wanted to find participants who worked with a varying array

of born digital material to gain a variety of advice through different perspectives. Through these

interviews, I was able to discuss issues that I personally encountered when working with a born

digital collection during my time current project. I was also able to learn what approaches they

were taking to appraise their material. Many of these interviews developed into a much wider

discussion of how to effectively "manage, preserve, and provide access" to born-digital archival

material. This is partly because all of these areas must be taken into account when appraising

this material, often needing to be addressed before conducting appraisal. During these interviews

I asked questions from seven categories. Categories included questions on their archival

background, what digital projects they were involved in, what methods and policies their

institution used, what methods they use for records stored in the cloud, how they feel about

software assistance, and advice for future archivists.

How to Decide What is Important to Keep.

Because many collections, whether they are government agency files, institutional records, or

personal papers of individuals, that include born-digital material have numerous files, sometimes

in the thousands, and created via many different kinds of technological mediums, it was

important to me to discuss how archival institutions are officially making decisions on what is

important to keep. It would be impossible to keep everything for even records stored in the

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[101] To see a list of questions asked see Appendix I.

"cloud" have to be stored on a server somewhere. Many archivists interviewed found it to be a difficult questions to answer. Ben Goldman, digital programs archivist at the American Heritage Center (University of Wyoming), feels that many institutions have yet to "grapple" with this issue in a "meaningful way." Goldman states, the "elephant in the room to me is pre-acquisition appraisal. We need to do a better job of working with donors/creators and attempting to influence what born-digital material we receive from them and how."[102] This can be difficult, but it can be one of the best ways to avoid getting material that does not fit within a particular institution's mission statement. Material should also be appraised based on the potential of its research value of the content, not the file format in which it was created.[103]

Throughout the interviews, the importance of contextual information given by donors concerning the material they were donating was important. Sarah Romkey, archivist in the Rare Books and Special Collections at the University of British Columbia in Vancouver, Canada, also notes the importance of communication with the donor, if access is possible. Romkey notes, "they can help in the sense that they can give the context of why they created these files, how they stored them, how they organized them, how they intended them for use later."[104] While this does not directly help with appraisal and whether an item is kept, there is still a third-party available to give context. One strategy noted for gaining contextual information to allow archivists to decide what was important for their repository to keep was "pre-acquisition surveys." This allows what Erika Farr, head of Digital Archives at Emory University, calls a "higher quality and much more understandable acquisition."[105]

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[102] Ben Goldman, (digital programs archivist at the American Heritage Center), interview by Jennifer Newby, March 2014, transcript, 3.
[103] Goldman, 4.
[104] Sarah Romke, (Rare books and Special Collections Archivist at the University of British Columbia), interview by Jennifer Newby, transcript, 9.
[105] Erika Farr, (Head of Digital Archives at Emory University), Interview by Jennifer Newby, transcript, 9.

It is also important that each institution has a solid mission statement that includes what their repository collects. This way, an archivist can strategize with the donor, whether they are the creator or not, that all material given to them meets their repository's interest. Sam Meister, digital archivist at the University of Montana, expands on the importance of making such decisions, by stating that digital material must be treated like any analog material during appraisal. Duplicates and published material without annotations from the creator and the absence of context within the collection are destroyed.[106] It is also important to conduct a file format analysis of everything in the collection and appraise from there.

Lisa Henry, the curator archivist for the Julian P. Kanter Political Commercial Archive, deals mostly with television commercials, broadcast commercials, and radio. Her institution also feels it is important to keep items when it was historically significant. It is important to note that for repositories, such as Henry's, there cannot be certain standards for all archives in what is important to keep.[107] In interviewing archivists who vary in the type of digital content they worked with, it was evident that no one set of standards can apply to every institution, and that archivists cannot wait for national/international standards for appraisal of digital material. It was also evident that the participants felt that item level appraisal should not be included in digital item appraisal. In cases where the collection is solely comprised of large amounts of digital material, appraisal can impede access to this material, so contextual information regarding the material in the collection is crucial. Deciding what to keep must be a decision by each individual institution, and placing the collection in the greater context of the creator(s) is relevant and helpful for this process.

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[106] Sam Meister, (Digital Archivist at the University of Montana), interview by Jennifer Newby, transcript, 9.
[107] Lisa Henry, (Curator Archivist for the Julian P. Kanter Political Commercial Archive), interview by Jennifer Newby, transcript, 10.

Third Party Help

One issue with technology is that it is fluid. It is ever changing, gathering speed as advances in technology develop. This is one of the biggest challenges for archivists trying to conquer the issues that accompany electronic records in archives. As soon as one solution develops, it can be outdated by the accession of the next collection. Because of this situation, I found it necessary to interview current archivists working with electronic records. This "real-time" approach to gathering sources allowed me to see the practical side of appraising these kinds of records and what currents steps they are taking to overcome the deficit of knowledge and ability to manage and access this material.

One topic that everyone interviewed noted was the need for sustainability of this material through preservation. Unlike with many analog collections, preservation must happen either before or during appraisal to ensure that metadata stays intact and is accessible for both processing and later access by the researcher. In my work with a born-digital collection, I preserved as I appraised this material. Often, many of the files created in now outdated programs such as WordStar and WordPerfect were "un-readable" by modern computers. Because I was not able to view these files, I had to convert them into modern Word files. Often important metadata was lost, and many of the files became either corrupt, opened as pages of "wingdings," or had gaping holes where text should have been. I had to do this at a file level, and with over 65,000 files, time became a huge issue. Because of this, I knew there must be more efficient ways not only to view these files, but to appraise them.

Many of the participants in my interviews were able to collaborate with IT professionals/companies or create computer programs through open source software. Romkey believes in using their programs to help deal with preservation and access issues during the

appraisal process. She notes that these programs can be "hugely beneficial...anything that can be integrated into processes that you're already using, the better."[108] One program that she mentioned was Preservica. Preservica advertises "you can rely on Preservica to ensure your digital assets will be secure, accessible and readable for years to come."[109] This program includes OAIS (Open Archival Information System) "compliant workflows" for areas of ingest, data management, storage, access, and numerous other workflows that is customizable for each archive.[110] This is a cloud based program that allows the archivist to upload archival material to their server. It then analyzes for preservation needs,[111] viruses, metadata integrity and "file characterization."[112] It then allows for consistent preservation of these files so that their integrity is kept from its creation and the program stores it in their secure cloud space. Since appraisal essentially includes all of this, this program sounds pretty ingenious. Yet there is a downside to this particular program; it is a subscription service. Many archives do not have preservation in their budget because it is often the last thing to be considered with analog materials, and many archival repositories have not caught up to the necessities of housing electronic records within their repositories. While Romkey notes this particular site, she also discusses another more budget friendly program, Archivematica.

Sarah Romkey believes that appraisal and preservation "absolutely" go hand in hand. She uses Archivematica, a "free and open-source digital preservation system to maintain standards-based, long-term access to collections of digital objects."[113] It is compliant with OAIS. Like Preservica, it allows the archivist to upload the materials. It then creates both a submission

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[108] Romkey, 12.
[109] "Why Preservica?" Accessed May 1st, 2014, http://preservica.com/preservica/.
[110] "Why Preservica?"
[111] Romkey, 7-8
[112] "Why Preservica?"
[113] "What is Archivematica?" Accessed May 1st, 2014, https://www.archivematica.org/wiki/Main_Page.

package and archival information package by "normalizing" the files into a preservation format. It also creates a "dissemination information package," which the archivist can choose to ingest into their access system. It works "seamlessly" with the International Council on Archives-Access to Memory (ICA-AtoM) software (open source Archival description software) because they are both made by the same company.[114] By making the content ingested into this program constantly accessible, it allows for a more seamless appraisal. Unfortunately, Romkey notes, that appraisal is still difficult, "because there is no intermediate step where you can view the files."[115] It is only when you upload it to your "dissemination system," such as CONTENTdm, that you can view the files. It is preferable to only upload items into Archivematica that are intended to be kept by the archival repository, but if the file is "corrupted or unreadable" it might be the only option. The actual decision making process of what to keep and what to destroy is missing in this program. Because the software is open-source, and it is mostly funded by the user community, an institution can fund a development for a "particular need for that functionality, then make it available to the community."[116]

Jessica Moran, assistant digital archivist of the National Library of New Zealand, discussed a program called Rosetta, dubbed as a "complete preservation solution that addresses the ever-growing need to collect, archive and preserve the digitally born and digitized materials" stored in archival institutions.[117] In this program there is both metadata extractor and file identifier. According to Moran, the National Library dedicates a position to creating and disseminating preservation policies. The Rosetta program, like Archivematica, does not have an

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[114] Romkey, 8.
[115] Romkey, 8.
[116] Romkey, 9.
[117] Josh Wiesmen, "Rosetta: Digital Preservation Solution for Universities" *ExLibris Rosetta.* Accessed March 21st, 2014. http://www.exlibrisgroup.com/category/RosettaOverview

appraisal aspect, but it allows archivists, and in Moran's case, curators, to at least have the

opportunity to view materials as they were when they were created.

There are also single programs that can help with viewing files in their original file

format that can aid in the file process. If a file is completely corrupted or unreadable, these

programs can be very valuable. Nicole Bubulo, project archivist at Stony Brook University in

New York, discussed having to appraise and preserve records "simultaneously." Part of Bubulo's

questions during appraisal include: "What is it going to take to retain this document? Do we have

to retain its original format? How much original formatting preservation am I going to actually

have to do for this object?"[118] For much of Bubulo's material, and many of the digital materials

of other archivists interviewed, they had to preserve before they could even begin to appraise.

Bubulo notes one particular program that can help during appraisal. She starts by using PDF

Creator. PDF Creator is free and has the ability to create PDF files from almost any document.

This allows archivists to view the contents of an unreadable document in its original form.

Bubulo states, "because for me, at least, a PDF or PDF/A, whichever version you want to utilize

will retain more of information or some of its look and feel."[119] This way, the file is not

converted, and allows the archivist to appraise the document in its closest original form.

Dorothy Waugh, a research library fellow at Emory University in Atlanta, Georgia, also

discusses the importance of retaining an "image" of the file before appraisal can begin. She

states, "Our first step is creating an image of the digital media prior to doing any appraisal, so we

are just creating an image, so that we can then use that image to start appraising content." [120]

They create two copies of said files. One is uploaded into their repository for preservation

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[118] Nicole Bubulo, (Project Archivist at Stony Brook University) Interview by Jennifer Newby, transcript, 5-6.
[119] Bubulo, 6.
[120] Dorothy Waugh (Research Library Fellow at Emory University in Atlanta). Interview by Jennifer Newby. Transcript, 8.

purposes and the other is a "working copy." Using programs with "imagers" such as FTK imager can be the most practical way of dealing with corrupted and unreadable materials. FTK Imager, a digital forensics program, originally designed for law enforcement organizations, allows the archivist to "interact" and view the records without "actually touching" or making any changes to them.[121] Archivists are "looking around at different tools and seeing what's out there, but...no tool is perfect yet in processing born-digital material."[122] Goldman and Waugh note that they have used a program called BitCurator, another open source program that aids in preservation and deals with material at a bit-level.[123] It also has the ability to identify private information through its "Bulk Extractor," a technique that can aid in appraisal. It also has the ability to look for key words. This tool can also be used for appraisal when the archivist is looking for specific documents. Waugh notes, "It comes down to, oftentimes, just trawling through the data you have, and opening files where you can open them, and trying to figure out what you have." [124] This software might be the closest program to proficiently aid in appraisal. The word searchable option could be used for figuring out what the collection encompasses digitally.

While no specific programs for born-digital appraisal have been created thus far, it seems that many of these programs can be adapted for appraisal use. All of the archivists interviewed discussed some level need for third party programs to aid in appraisal, some even stating that third party help was even needed at an MPLP level. It is not that archivists want to outsource every step in their archival process, it simply becomes necessary to include these third party programs with this material so that preservation, access, and appraisal can become a more time efficient process to allow all material an equal chance to be included within the collection. It is

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[121] Moran, 11

[122] Moran, 11.

[123] Goldman, 2.

[124] Waugh, 5.

important that archivists work with third party software creators developing archival appraisal aids to make sure that the program can be malleable to adjust to each collection and includes important appraisal tools deemed necessary for each repository. This may seem abstract, but I believe that both technological advancements and greater understanding of digital material by archivists may lead to such innovation.

Dealing with Volume

Many institutions have initiated some version of Mark Greene's and Dennis Meissner's archival method of More Product, Less Process (MPLP) within their repository to accommodate the sheer volume of material coming into their repository. MPLP is archival method that advocates that not ever collections needs item level processing. This partly because for the archivist, it is "near impossible" to appraise material manually at a file level, tools are needed, some that still need to be developed.[125] All of the archivists interviewed agreed that MPLP needs to be considered when appraising digital records. It has become a question of "necessity," and to a degree MPLP must be used. Matthew McKinley, digital project specialist at UCLA Libraries, concludes that an "asset like MPLP works because there is no way you could open up every single document [when files included in the collection are in the thousands]...it is definitely not the same as physically being able to rifle through files. It is having to open every single one and look at them, so it...necessitates an MPLP approach."[126] MPLP is fundamentally different when you apply it to digital material because it includes some purely analog methods (such as not removing staples and paperclips) to save time, but it is the same general idea. In this case, MPLP

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[125], Lisa Snider, (Electronic Records Archivist, Harry Ransom Center, University of Texas.). Interview by Jennifer Newby, transcript, 1.
[126] Matthew Mckinley (Digital Project Specialist at UCLA Libraries), interview by Jennifer Newby,transcript, 8.

would include third party software to aid in appraisal. This program could be as simple as capturing an image of the material then using a word searchable data base, such as BitCurator, to find sensitive information or keywords to aid in accessing the material. In reality, most archivists and their institutions are plagued with lack of time or resources to process and store their materials. Since this material is time sensitive, it only makes sense that digital material is processed in a time efficient manner and any tools developed to aid in the process should be utilized.

Ambiguous records

Copyright can become a very gray area when dealing with archives. This is especially true with born-digital material. In many cases, records creators can copy information from the internet, and save it on their computer, in their social media account, e-mail etc. It can certainly affect the appraisal process. What if something deemed relevant to the collection is kept, but neither the creator nor the repository holds the copyright? This is another issue that, in most cases, is addressed individually by each institution. It presents a difficult situation because most archivists interviewed noted that they did not do a "file by file analysis" of data within a collection. In many cases, when it comes to copyright, the deed of gift should include language regarding the transfer of copyright by the donor or creator to the archives. With that, there should be a disclaimer that would state that the institution holding digital material is not responsible for third-party content copyright status, and it is up to the user to gain copyright from the copyright holder for use. [127]

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[127] Meister, 9.

For appraisal purposes, copyright has no bearing on appraisal and other archival functions. In this case, it becomes more of a question of disclaimer than it does of appraisal. Henry discussed that her archives does not own any copyrights to their holdings. Because of this, the responsibility of obtaining copyright permission rests with researchers. For example, if a researcher comes to Henry's repository, they give her or him any information requested with the caveat that the researcher needs to seek copyright permission if such information is to be published.[128]   Another archivist, who wished to remain anonymous, agreed that copyright is in the hands of the user. She states, if the researcher wants "to reproduce anything [found in our archives], it is their responsibility to determine who the copyright holder is." Even if the archival repository does have copyright, having this disclaimer is necessary for any material that is questionable. Another solution to the issue of copyright would be to only allow access to these materials within the reading room of that repository, which limits risks of fraudulent copyright use because it is not available on the internet.[129] This allows the archivist to appraise the collection without having to consider future access to the user.

Records stored in the "Cloud"

The discussion on records stored in the cloud became very hypothetical since none of the archivists interviewed had a lot of personal experience in handling records stored in the cloud such as in Facebook, Twitter, Tumblr, or storage within email accounts such as Google Drive or OneDrive. But this discourse is important because in the future many collections will include material from these mediums, and archivists need to be prepared to know how and what to

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[128] Henry, 11.
[129] Farr, 11-12.

access for appraisal in the future. It is also going to become more and more relevant as more devices store all of their data in the cloud.

A whole new theoretical framework needs to be created for records stored in the cloud. This framework should concern how and what to access, whose experience within social media should be preserved, and how it should be appraised. Most institutions will have to mold this framework to their individual institution to make sure it aligns with the institution's mission statement. Moran states, when asked about the future for records stored in the cloud and how archival institutions should appraise them, "I think that is a part of the reason that people are so interested in personal digital archiving and doing a lot of outreach in trying to get information out there…"[130] The other part of the reason would be to get creators to think about the future of their records, where they are stored, and how they will be accessible in the future. This, again, emphasizes the importance of collaborating with the creator or donor before the material is given to the archival repository. Thus, it will be important for creators to "keep track" of where their records are kept, and transfer any necessary passwords so that the archivist can make appraisal decisions in each place the creator stored his or her records. Storing records in the cloud is a wonderful contribution to the creator's ease of access and use for her/his material at any time and place, but it will be a potential headache for future archivists. If a holistic view of the collection is to be presented, archivists must plan in advance for this new form of acquisition and appraisal of digital records.

One archivist interviewed, Goldman, has some experience with appraising records stored in the cloud through using a web archive service. When asked about his experience in this kind of appraisal he states,

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[130] Moran, 7.

It's hard because websites are complex documents--it's not like you can (or even should) acquire just the content of a Facebook Status update without acquiring the complex array of related files and code that delivers this content on the web in the first place. And even if that's what you wanted to do, the tools available do not really support this kind of appraisal. But each one [case] is *so* different. Tweets can be captured as raw data; for YouTube you could capture just the videos if you wanted, but you're only capturing videos of diminished quality when what you want are the less lossy original files. It's a complicated landscape of opportunities and challenges, to be honest. In general, though, we let our collections development mission guide us to the availability of related material on the web, and these we capture using the best tools we have available. This does result in the capture of a lot of ancillary material, but it's unavoidable.[131]

Appraisal, or any archival process in this case, has to develop around each collection. Maybe in the future, there can be a guide of what to consider with each type of digital records to be appraised. The caveat with using digital mediums to create records is that the creator has options within each medium, such as social media, on how to create their records. This opens up further questions such as what kinds of appraisal criteria should be considered. It might be close to impossible to discuss the appraisal of records stored in the cloud within a theoretical framework. It is a quandary that presents many facets within each individual collection. Because of this, discussion within the archival field with current situations should be monitored and disseminated within the professional community. I believe a practical side of appraising of this material will take an "archival village" to make sense and progress in this situation.

It has certainly taken an archival village to make sense of the collection I worked on. While I did not receive a simple step by step process for appraising this collection. I started to look at it in a different way, thinking about what issues I could tackle and speak to my supervisor at the present moment. While I am no long working on this collection I continue

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[131] Goldman, 4.

thinking about what third party help would be the most beneficial for this collection. I think the simplest answer would be to upload it to a program such as BitCurator or Archivmatica. This would at the very least make sure the born-digital material is accessible when decisions on appraisal can occur or at least preserved and converted so an archives can continue to appraise the material at an item level without the worry of the born-digital material becoming outdated. This is a time of transition for the archival profession, and we have to make sure that during this transition we do everything we can as archivist to continue our professional purpose of providing access to the user.

Chapter IV

Just Keep Swimming
Recommendations for an Archival Transition

While the appraisal of electronic and strictly born-digital material may still seem abstract

to many archivists who have not yet experienced this predicament, this material will not go

away. Instead it will only intensify. The entire profession in its discourse is having a "collective

panic attack."[132] Because of its fragile and diversified nature, born-digital material cannot be left

for an archivist's successor to handle. In fact, the worst thing an archivist can do is nothing, as

this chapter explains. While there is not a direct answer for how to conduct appraisal of born-

digital material, there are several suggestions by those in the archival trenches regarding this

technological era. Drawing from the interviewed archivists' advice and archival literature, this

chapter synthesizes recommendations for new and veteran archivists entering this new phase of

appraisal.

The discourse within the archival profession tends to agree that technology has "changed

the environment that shapes our collections."[133] One of the most important suggestions given by

archivists, either in articles or interviews is to explore the vast amount of resources either online

or in the surrounding area of the archivist's repository that can aid in born-digital appraisal or

other archival processes. Lisa Henry advises, "Find the tools that are there to work with,

whether it is online tools or extensions or add-ons or software, whatever you can to ease your

process…pretty much [for] anything you want, there's an app for it. If you've thought of it,

somebody else probably has too. There are just so many [options] out there, and I think you just

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[132] Romkey, 15.
[133] Dow, 255.

have to pick the direction that you are most comfortable with."[134] Henry brings up an important

point as archivists transition into working with more and more electronic material. Each

repository is going to have its requirements for an appraisal process in alignment with its mission

statement. Archivists need to be comfortable inquiring and educating themselves about these

requirements. They also need to be comfortable with the unavoidable task of finding tools that

will help "ease" their process. There are many resources at any budget, from open source

software to private companies, which can at least preserve digital material and prepare it for an

appraisal process. There is a large online community that can help the archivist get started and

suggest such tools and direct them to online tutorials. Meister advised this during his interview.

Archivists should "...become a part of the community of people who are doing similar

work...engaging sort of via internet or in person wherever possible to share best practices and

issues and really learn from each other."[135] While the archival community gains footing in

understanding new mediums of records creation, their fragility, and ways to approach appraisal

of this material, it is important to stay involved in the continuing conversation.

Many tools, such as FTK Imager, were not invented for the use of archival repositories,

but can be adapted and coupled with other tools to create necessary aids for each particular

repository. There is also a new program called fondz, which is in its testing phase. Lisa Snider,

electronic records archivist at The University of Texas at Austin, expresses excitement over this

program, being developed by Stanford's ePADD project. She believes it is this program that will

be the "most useful tool for e-mail appraisal."[136]   ePADD was developed as a digital forensics

tool, much like FTK imager, but was developed to auto-generate archival description.

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[134] Henry, 14.
[135] Meister, 25.
[136] Snider, 1.

Developments like this are an excellent start, and they will help archivists "tame the tide of information that is threatening what is to become a Tsunami."[137] It is important for archivists to keep seeking and creating these tools and developing them to be more efficient and malleable for each archival repository. Snider states, "Tool creation is the key, and digital archivists should be at the forefront of that development and testing process."[138]

The second most mentioned piece of advice for working through this transition is to have a solid understanding of archival theory, particularly for appraisal. Dow discusses this when forecasting the future of archivists and digital collections, in her book *Electronic Records in the Manuscript Repository*. She notes that "digital archivists and curators must have a solid understanding of archival principles and activities, a solid understanding of the variety of processes that create digital materials…" It is important to have this solid basis in order to move forward and transition into the digital age. Keeping a "foundational" understanding of appraisal will help the archivist make important decisions regarding how she will incorporate tools and non-archivist help with these processes. Bubulo noted this in her interview. She states, "keep your foundation. Do not get stuck in whether it is analog or digital. Know how to appraise...know those skills..," and the decision process will become more accessible. This solid understanding of *records, archives, creator, custody, and metadata* as well as the processes of each and the associated activities, will allow the archivist to at least know what they want to achieve with their digital based collections. This knowledge, in addition to "broader knowledge" of the technological diversity of these records, allows archivists to achieve success.[139]

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[137] Snider, 1.
[138] Snider, 1.
[139] Gilliland, 257.

One of the debated issues regarding digital material is whether there is too much separation between analog and digital material. Activists tend to dwell in predicaments of this situation in the abstract, not even knowing where to start. Because of this, born-digital material sits on external hard drives, floppies, flash drives, (soon) the cloud, and the like and may be left for someone else to "deal with." Many archivists believe that leaving digital records untouched until a clear outline of instructions on how to work with this material is the best decision. Yet, this can be detrimental to the records because keeping them in the same condition that the creator left them allows the born-digital material to potentially become inaccessible because of degradation or technological advancement. Archivists must understand that the future of records creation will be through technology, in one form or another. For this reason, it is time to stop making distinctions between archivists who work with digital records and archivists that do not.[140] In the near future, all archivists will have to encounter digital material on a daily basis. There will be no distinction. Archivists will need to recognize the needs for maintaining digital records and educate themselves in order to continue in this profession.

The fast pace of ever changing technology is enough to make some archivists want to check themselves into an insane asylum. Even the most prominent archival expert in this area will grapple with this. The best way to cope with this issue is to understand not only that this a transitional period for archives, but also to understand that the learning process will never be over. There will be several answers for every question. The goal is to continue an active education and discourse on both successes and failures as each repository develops its own appraisal and preservation process. Archivists need to be comfortable in making mistakes in addition to having success in appraising born-digital material.[141] They need to approach digital

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[140] Romkey, 14.
[141] Moran, 12.

material with the ability to think flexibly and innovatively. They must also think more "strategically and systematically about why, when and how they should share professional or intellectual territory with other communities through collaboration, cooperation, or layering of expertise and other resources."[142] This flexibility is key to the future of the archival profession, perhaps it has always been. There is "real danger" in trying to set special standards that blanket all archival collections. There is also danger in trying to separate the archives from the greater institution and treating this department as "extraordinarily special." Farr notes, "The archives must have its own everything, unique in a sense. I think you put yourself at risk of being an outlier, and I think a preservation risk...I think the more connections and the more bridges you can build and the more ways you can tie yourself into these existing workloads, existing documentations, existing practice and precedent, with IT existing infrastructure…" the better success the archivist will have in allowing the repository to become more fluid and allow for more development in this area.[143] This process will not always be successful, and the archivist will need to be comfortable with failure. Many of the solutions that archivists are looking for are either not out there or have not been adapted for archival use. Yet, this can be an exciting challenge. The preparation for learning new technology and researching for solutions must be considered. This preparation also must be continual. As soon as one tool is developed, chances are it will need to be updated, and the process of learning will start over. The enthusiasm for the profession and the ability to achieve access for users must stay elevated. This kind of "flexibility and enthusiasm for the work" supersedes any failure, otherwise the archivist has failed before she has ever begun. [144]

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[142] Gilliland, 256
[143] Farr,
[144] Waugh, 14.

It is important that archivists continue their education through participation in classes, discussions, and case study. One program developed by the Society of American Archivists (SAA) is the Digital Archives Specialist (DAS) Curriculum and Certificate Program. This program offers a wealth of knowledge for an archivist looking for a specific set of classes directly relating to digital records. According to the SAA website, "the DAS Curriculum, developed by experts in the field of digital archives, is structured in tiers of study that guide you to choose courses based on your specific knowledge, training, and needs."[145] The flexibility of these classes allows archivists to participate in classes that are appropriate to their repository's needs. It is also updated as better tools and workflows develop. While a few of them are "webinars" accessible to anyone with internet, many of the classes must be attended in person, which can be difficult because of budgetary and location restraints. There are also many online tutorials that allow archivists to participate for free.

It is important to understand that this is a step by step process. The archivist may simultaneously look at the big picture of working with digital material as well as attempting also to address current issues that come up. There has to be a recognition that in order to "actually be sustainable" a larger infrastructure for appraisal will be needed, but in the meantime, what tools are available to the archivist at that time that can help on a day to day basis?[146] The goal is to make progress in making an efficient appraisal process for that repository, but at the same time the archivist must allow the process to develop step by step as archival tools, such as fondz, develop.

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[145] Society of American Archivists, Digital Archives Specialist (DAS) Curriculum and Certificate Program. Accessed November 2, 2013. http://www2.archivists.org/prof-education/das.

[146] Meister, 25.

If keeping up with technology and appraisal is simply not possible for a repository in the near future, there is still work to be done. Born-digital material is in danger of losing both structural and informational metadata. To avoid this, make sure that the material is preserved in some way. This can be done by using programs such as PDF creator, or using open source software such as Archivematica or BitCurator. Retaining the media is a great first step, that way it is in a safe location and appraisal can be done at a later time. It is important to understand that the medium on which the born-digital material is stored is often the problem. Storage devices such as floppy disks, CDR's, and recordable DVD's can have a shelf life of under seven years. Many archival repositories have analog backlogs longer than that. If the information just sits there, it may not be accessible by the time the archivist is ready to appraise it. In this case, it is important to use tools that will not only store this material, but will also preserve it in its original condition.[147] This situation can become quite a "quagmire" if skill set and right tools are not available. An archivist must look at this whole process holistically, and account for access needs in the future for either processing or use.

All of these recommendations can be confusing to those who have never worked with born-digital material. The best advice is not to procrastinate on education, research, and experiments when attempting to appraise electronic records. The longer an archivist waits to understand and transition into working with born-digital material, the harder it will be to catch up. This is not only detrimental to the archivist but also the content that is housed in the repository. The whole reason for archival existence is for allowing access to the past. If this past is not accessible to the user, there is essentially no justification for our profession. This may seem like a bleak assessment and maybe even over exaggeration, but the fact of the matter is that

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147 McKinley, 22.

not enough archivists are contributing to the discourse and testing new tools for archival use. This already makes the profession two steps behind technology.

If archivists can take anything from this thesis, it should be that even the smallest steps taken to improve issues with born-digital appraising, and any other archival born-digital processes, will contribute to keep the collection's born-digital material accessible to future users. I believe that learning the methodologies developed for working with born-digital materials is like math: each step builds on the previous step.

There are many arguments for obtaining an education in working with born-digital material, much less learning the best ways to appraise it. Many archives have limited time and budget to work with the analog material they already have, and they cannot fit any more tasks and education into their schedule. This can be a very convincing argument for not developing an educational background for working with born-digital records. Yet, archivists need to remember why they became an archivist and not get stuck on the stress of working within the archives, and remember that providing access is the most important contribution an archivist can make.

If budget is an issue, start a Google search to help ease complications of working with digital material. Do not be afraid of outside help. When I first started working on appraising born-digital material, I was frustrated and embarrassed, thinking that I should know what I was doing, when I clearly did not. Deeply bothered by my frustration, I began Google searching for answers. Videos on YouTube helped me learn the software my supervisor told me to use, and blogs on this subject by archivists showed me that I was not the only person lost when it came to this subject. Try free open source software, such as BitCurator, to help you store and preserve material while a processing plan can be developed.

One thing to remember is that your archives is not the only archives in the world to have a limited budget. One very helpful tool is Twitter. Many of the archivists on Twitter have joined to keep up with the profession, but also to give and seek advice from other archives. In my experience, if an archivist sees your tweet and does not know the answer to your question, they will either know someone who does, or retweet your question so archivists that follow them on Twitter can see your question and maybe help. It is important to remember that all archivists are in this transition into the born-digital age, and the more this subject is discussed, the faster new tools can be developed and questions can be answered.

Lack of time may also be an issue. It is completely understandable that most archivists do not have the time for a major case study or to attend classes such as DAS to gain both the IT and archival knowledge needed to work with born-digital material. Yet, just because there is not time for an extravagant foray into born-digital archival education, does not mean that education should be completely dismissed. Ignoring that born-digital material exists in the repository is the absolute worst way to approach this situation. If an archivist has an accession that includes born-digital material, make it part of the processing plan to do a bit of research on what would be the best way to approach and preserve this material. Small steps are a perfectly logical way to approach the predicament of born-digital material. I found that was the best way to approach the collection I was working on. I worked on each challenge one at a time, making a list of questions. It was this list of questions that inspired my interview questions for this thesis.

It is also *very* important that archivists become resilient to both failure and technological advancement. A step that worked brilliantly for one collection or one archivist may not work for another. I found this out when working with ReNamer. Some document would seemingly be unchanged by the document conversion, while others would convert into pages of symbols. For

me, this happened within the collection from document to document. Yet, from speaking with

other archivists, I found that by just simply changing the program to an Adobe document imager

could solve this debacle while preserving the document's metadata.

Technological advancement will never stop. Archivists need to come to terms with this.

This means that born-digital material may be accessible one day by a certain device and not the

next. When I moved to my Windows 8 computer, I could no longer access the VPN connection I

needed to access the collection I was working on. The only way I could get around it was by my

supervisor sending me an external hard drive of the collection files. I find technological

advancement both tiring and challenging when it comes to working with born-digital material.

An archivist needs to accept issues with born-digital material as a positive challenge that helps

the profession stay up to date with the rest of society. If we as a profession cannot continue our

ability to provide access for use, how can we continue to justify our positions within institutions?

Conclusion

The world of technology is both fast-paced and exciting. To know that a person from a small town in Utah can upload videos on YouTube and within weeks have millions of subscribers from around the word is incredible This thesis can be saved on Google drive and viewed from any computer or tweeted in 140 characters at a time. Millennials are now completely comfortable with creating records on a plethora of devices.

What will happen when famous bloggers come to an age where they are transferring material to archives, or if they die and the material is donated? It seems that this transfer would be like any collection, but that is not the case. This material will come with baggage, including old inaccessible records, records with missing metadata, and most likely many files that are not labeled properly.

Technology has become a first world way of life. While technology has made our lives easier in so many ways, archivists are desperately trying to decide how to document its relationship with creators. Archival collections are already starting to see an increase in material being injected into the archives.

Archivists must create a whole new set of theories that expand past those of Hilary Jenkinson and T. R. Schellenberg. Both Jenkinson and Schellenberg could not have imagined a digital age where record creators would have a plethora of new ways to create records. They were both a product of their times. If every archivist worked with a limited amount of records, like Jenkinson, they may decide that it is better to keep all of the records and avoid a judgmental error. Yet, Schellenberg lived through a time of where the increase of records became

unmanaged for storage and certain appraisal decision had to be made. Both Jenkinson and Schellenberg led many archivists into a discourse on archivists and their purpose within the archives and how much of an active role an archivist should play when making appraisal decisions.

The introduction of electronic records adds further complication to appraisal discourse. Many of the scholarly articles on born-digital material have been too theoretical, and most do not include the practical advice and methodology that many archivists are currently interested in. This is why interviews with current archivists in the trenches of working with born-digital material were necessary. For practical purposes, interviews were the easiest way to access real time advice.

Through conducting these interviews, it became evident that it is important to approach born-digital material flexibly, and a key problem that many archives are facing are flexibly and the allowance for change in theory and in methodology. This resistance to change is detrimental to the archival profession. Just because archives in the past mainly dealt with analog materials, which were processed in a certain way, does not mean that these theories and methodologies will work for born-digital material. For instance, the order of processing stages changes when working with born-digital material.

When processing a collection of analog material, the stages of processing are usually appraisal, arrangement, description, access and preservation, and outreach. Yet with born-digital collections, the processing stages are fluid and some stages are repeated. Because of outdated software and hardware, the stage of preservation and access are usually coupled with initial appraisal. This can also mean that many of the archival stages are also interrelated. This is so the archivist can access outdated material in order to preform appraisal on the collection then

continue onto the next stages of arrangement and description. Many times, an archivist will have to simultaneously appraise for content arrangement and access issues. If access issues come up, the stage of preservation will need to be considered, if access issues do not come up, the archivist can successfully appraise and arrange the content. With analog collections, preservation is usually the last item on the processing list. Now, with born-digital material, preservation is a constant concern because of technological advancement making certain software outdated and inaccessible. After the collection is arranged and described, the collection has to go through another staged of appraisal that addresses future access and preservation needs. The staged of appraisal will never be complete, and the collection will have to be reappraised frequently for preservation and access issues the entire time it is housed at its repository.

If preservation is a key issue and many of the born-digital items are unreadable, the easiest solution is to preserve all archival born-digital material using preservation software like Preservica or Archivematica. This software will preserve a collection's born-digital material so it both accessible for initial appraisal and accessible for future use. This software will also benefit archives that do not have time to appraise born-digital material soon after the material is accessioned into the archives. Preservation software will both allow the archivist to appraise for arrangement and description purposes at their own convenience and keep the material accessible for use for many years to come.

The archival profession is in a pivotal transition. It is important to play an active role within the archives and the collection by questioning if the appraisal conducted on born-digital material is the most efficient and safest for the collection. It is very important to seek advice and hints from current archivists for appraising this material for new archivists, such as myself, and those who are just beginning to learn and work with digital materials. The best advice archivists

have given to me was to make sure all resources were explored, researched, and tested. Preservica may be in the budget for some repositories, but others may find it is more cost effective to use BitCurator. ReNamer may work for some files, but FTK Image may be a better option for others.

Archivists need third party help when appraising born-digital material. Even if a certain tool was not created for archives, it might be adapted for archival use such as FTK Imager. Researching and testing new software, new technology or even a new methodology of appraisal can become very frustrating, but is important to keep the profession's purpose in mind during this process. One of the basic reasons why archivists exist is to provide access to archival holdings. If the archivist keeps this in mind, failure when attempting to create new theory and methodologies will only mean progress and the chance to try a different approach. In the situation of working born-digital material, progress is success.

Both budding and veteran archivists will never stop learning when it comes to technology, and they will probably fail a few times before they find a successful way of working with born-digital material. Archivists must see this as a positive challenge, or they will fall behind, leaving many records to be inaccessible in the future. Archivists need to be proactive in their decision making. The question is now not whether archivists should make important appraisal decisions, but how quickly they can make these decisions.

Education in this area is never inaccessible. Many of the archivists interviewed learned by trial and error, online research, and asking other archivists. They partnered with other archivists or IT professionals to adapt programs to work the needs of their repository. This is how open source software for archives such as BitCurator and the file profiling tool, Digital Record Object Identification was created.

It is important that archivists actively contribute their knowledge in record keeping when an institution confronts the challenges of born-digital materials. While IT professionals have the knowledge to build software for archival use, they rarely have knowledge in record keeping, the concept of provenance, the importance of context, accountability, and knowing what is needed for archival outreach. Archivists need to express not only their concerns, but also how they can contribute to the broader institutional mandate and needs through an active appraisal process for born-digital records. Archivists can and should address these concerns to those with whom they work directly, but also to their institution, the greater IT community, repository donors, and other information professionals.

Archivists should consult those who develop and/or require new mediums for records creation, especially those programs that are specifically designed for companies and government entities in which many of the records created are kept for either records management or archival purposes. It is essential that many of those who design, develop, and construct born-digital material consider archival and records management challenges and concerns when designing their software. It is the archivists' job to not only educate themselves on working with born-digital records during their transition into the archival digital era, but also to forge new relationships with those who can help ease the transition.

Archivists are continually justifying the importance of their profession to their institution, government, and even archival users. How can archivists justify the importance of their expertise if they cannot provide access to the user because of unmet challenges in preserving and appraising born-digital archival material? If archivists do not actively engage in appraisal and access for born-digital records they will not be able to provide this essential service to their institutions. This may render them irrelevant, when they should be considered vital for future

information services. Archivists must not be afraid of technology, but embrace the chance to serve critical societal needs through digital media.

All of these issues and challenges emerge during the appraisal process of born-digital material. It can be very hard to come to terms with flexibility and learning by trial and error. Yet, being flexible when working with born-digital material is a positive attribute. Internet searches and speaking with other archivists can be one of the best tools and it is important to understand that failure in one particular methodology does not mean there is never going to be a successful method to employ.

Ignoring born digital items, believing that education is inaccessible because of time and budget, not allowing for flexibility in both theory and methodology, and not contributing to the dialog concerning born-digital material are destructive to the archival profession. The very real possibility of looking back fifty years from now in anger because archivists could have done so much more to save digital records from their demise has to fuel a sense of determination in archivists. Archivists should be proactive, continue the conversation, and test practical appraisal methods for digital materials that work for their repositories.

Bibliography

An, Xiaomi, "An Integrated Approach to Records Management," *The Information Management Journal* (2003): 24-30

Archivematica. "What is Archivematica?" Accessed February 25, 2014.
https://www.archivematica.org/wiki/Main_Page

Bantin, Philip C. "Strategies for Managing Electronic Records: A New Archival Paradigm? An Affirmation of our Archival Traditions?" *Archival Issues* vol. 23 no. 1 (1998): 17-34.

Boles, Frank and Julia Marks Young. "Exploring the Black Box: The Appraisal of University Administrative Records. *American Archivist* vol. 48, no. 2 (1985):121-140.

Cook, Terry. "Building an Archive: Appraisal Theory for Architectural Records. *American Archivist,* vol. 59 (1996): 136-143.

_____Foreword in John Ridener, *From Polders to Postmodernism: A Concise History of Archival Theory*. Duluth: Litwin Books, 2008.

Cross, Samantha. "Appraising Archivists: Documentation and the Need for Accountability in the Appraisal Process." Master's thesis, Western Washington University, 2011.

Davis, Susan E. "Electronic Records Planning in "Collecting" Repositories." *The American Archivist* vol. 71 (2008): 167-189.

Dow, Elizabeth. *Electronic Records in the Manuscript Repository.* Lanham: The Scarecrow Press, 2009.

Duranti, Luciana. "The Concept of Appraisal and Archival Theory." *The American Archivist* vol. 57, no. 2 (1993):328-344.

_____ "Rethinking Appraisal": Conference Overview. Accessed on February 3rd, 2014.
http://www.interpares.org/display_file.cfm?doc=duranti_delos_2007_overview.pdf

Eastwood, Terry et. al. "Appraisal Task Force Report" InterPARES Project. Accessed December 8th, 2013. http://www.interpares.org/book/interpares_book_e_part2.pdf

Gilliland, Anne J. *Conceptualizing 21st-Century Archives.* Chicago: Society of American Archivists, 2014.

Greene, Mark. "MPLP: It's Not Just for Processing Anymore." *The American Archivist* Vol. 75 (2010): 175-203.

Henry, Linda J. "An Archival Retread in Electronic Records: Acquiring Computer Literacy." *American Archivist* vol. 56 (1993): 515-521.

InterPARES. "Goals and Methodologies." Accessed on May 8th, 2014. http://www.interpares.org/ip1/ip1_goals&methodologies.cfm

Jenkinson, Hilary. *A Manual of Archive Administration.* London: Percy Lund, Humphries & Co. LTD, 1937.

Johnson, Gregory P. "Quality or Quantity: Can Archivists Apply Minimal Processing to Electronic Records?" Master's Thesis, April 2007, Accessed December 13, 2014. http://etd.ils.unc.edu/dspace/bitstream/1901/413/1/gregjohnson.pdf.

Lee, Christopher. "Collecting that Externalized Me: Appraisal of Materials in the Social Web" in *I Digital: Personal Collections in the Digital Era* edited by Christopher Lee. Chicago: Society of American Archivist Press, 2011.

Pearce-Moses. "The Winds of Change: Blown by Bits." Speech, New Orleans, August 19, 2005. Society of American Archivists: http://www.archivists.org/governance/presidential/rpm2005.pdf

Preservica. "Why Preservica?" Accessed May 1st, 2014. http://preservica.com/preservica/.

Samuels, Helen. "Who Controls the Past." *American Archivist,* vol. 49. No. 2 (1986):109-124.

Schellenberg, T.R. *Modern Archives: Principles and Techniques.* Chicago: University of Chicago Press, 1956.

Sink, Robert. "Appraisal: The Process of Choice." *American Archivist* vol. 53 (1990): 452-458.

Society of American Archivists, Digital Archives Specialist (DAS) Curriculum and Certificate Program. Accessed November 2, 2013. http://www2.archivists.org/prof-education/das.

Stapleton, Richard, "Jenkinson and Schellenberg: A Comparison." *Archivaria* 17 (1983): 75-85.

Tschan, Reto. "A Comparison of Jenkinson and Schellenberg on Appraisal." *The American Archivist* vol. 65 (2002): 176-195.

Wiesmen, Josh. "Rosetta: Digital Preservation Solution for Universities" *ExLibris Rosetta.* Accessed March 21st, 2014. http://www.exlibrisgroup.com/category/RosettaOverview

Interviews:

Anonymous. Interview by Jennifer Newby. Wave File Recording. Phone, May 2, 2014.

Bubolo, Nicole. Interview by Jennifer Newby. Wave File Recording. Skype, March 18, 2014.

Farr, Erika. Interview by Jennifer Newby. Wave File Recording. Phone, April 16, 2014.

Goldman, Ben. Interview by Jennifer Newby. E-mail. Web, March 22, 2014.

Henry, Lisa. Interview by Jennifer Newby. Wave File Recording. Phone, March 26, 2014.

McKinley, Matthew. Interview by Jennifer Newby. Wave File Recording. Phone, March 27, 2014.

Meister, Sam. Interview by Jennifer Newby. Wave File Recording. Skype, March 21, 2014.

Moran, Jessica. Interview by Jennifer Newby. Wave File Recording. Skype, March 25, 2014.
Romkey, Sarah. Interview by Jennifer Newby. Wave File Recording. Skype, March 20, 2014.
Snider, Lisa. Interview by Jennifer Newby. E-mail. Web, April 14, 2014.

Waugh, Dorothy. Interview by Jennifer Newby. Wave File Recording. Phone, April 3, 2014.

Appendix I: Interview Questions

Appraisal of Born-Digital Material

Category One: Education and Experience with Born-Digital Collections.
- What is your Archives educational background? Did you attend graduate school for Archives, or did you learn on the job?
- How long have you worked in the Archival field?
- Did your graduate school offer coursework Archiving born-digital records?
  - If so, what courses did they offer and which courses did you enroll in?
- Have you taken classes through Digital Archives Specialist (DAS) Curriculum and Certificate Program?
  - If so, have you found these classes beneficial? How has these courses helped you appraise born-digital material at your repository?
  - If not, do you plan to?
- How many collections have you worked on that include born-digital material?
- What is the largest collection of born-digital material that you have worked with?

Category Two: Case Study Participation
- Have you been involved in any case studies regarding the appraisal of born digital material?
  - When? What was your involvement in this case study?
  - What was the research question?
  - What devices were these records stored on? i.e. hard drive, cd, flash drive, cloud?
  - What problems did you encounter during this study? What solutions did you find?
  - Explain the process of this study. Was a report published?

Category Three: Approaches, Policies, and Strategies to Born-Digital Appraisal in the Archives
- How do you feel about More Product, Less Process (MPLP) when appraising born-digital material? Do you feel that born-digital material would benefit from a MPLP approach? How so?
  - Have you enacted any such practices?
  - Has your institution created any direct policies regarding MPLP and the appraisal of born-digital records?
- Do you feel that preservation and appraisal go hand-in-hand?
  - If so, how so? How have you integrated these archival functions?
- What do you look for in when doing an initial collection survey of these materials?
- What steps do you take when you acquire material that is out-of-date and can no longer be opened to its original format?
  - How do you preserve its original metadata?
- Creators have many ways to create born-digital material. How does your institution decide what is important to keep?

- Do you treat this material the same as you would treat analog material when appraising?
- The inclusion of born-digital materials in collections have made many collections very large. Does your institution enact any pre-acquisition strategies with donors in order minimize the acquisition and appraisal of unnecessary material? Are there different strategies for donors who were not the creator of donated material?
- How has your institution's appraisal strategies changed since the introduction of born-digital material?
- What steps have you taken to recover important records that may have been lost for appraisal?

Category Four: Copyright and Ambiguous records

- How do you address copyright with your born digital files? In my experience, I have come across many documents that are ambiguous when trying to figure out its creator.
  - Have you come across these materials? What is your process when deciding whether or not to keep documents of ambiguity? Do you follow the phrase of "When in doubt, throw it out?"
  - How do you address copyright when material donated includes files created by a third party? For example: If you are given a computer hard drive that includes materials created by other than the main focus of the collection, such as family members or coworkers, how do you address and obtain copyright for such?

Category Five: Records stored in the Cloud

- Have you worked with collections that include records stored in the cloud?
- What do you think the future has in store for records in the cloud? How does your institution handle material stored in the cloud? Do you have a protocol for such an instance?
- Should national standards be created for access records stored into the cloud for appraisal?
- What about Social Media records?
  - Have you appraised a collection that includes records from social media? i.e. Facebook posts, tweets, vlogs, etc?
  - What protocol do you follow when appraising this material?
  - If you do not have standards/protocol for appraising this type of material, do you have any opinions on how archivist should appraise this material?
  - A single creator may have many accounts, stored in the cloud, with important documentary evidence that is wanted by an archive. What is your experience with appraisal of these accounts? What steps have you taken to obtain these records for appraisal?

Category Six: Third party help in appraising born-digital material

  - How do you feel about the creation of a computer program that would assist in the appraisal and preservation of material?
  - What is your impression of companies, such as ArchivesSocial, that advertises the management and preservation of born-digital records based in the Cloud, such as social media, for a fee?

   o Do you foresee any problems or benefits for compiling and managing collections in the future when using these companies?

   o Do these companies help with educating the public, including potential donors and users, about the importance of archive

Category Seven: Conclusion questions

   o What advice do you have for future archivists and working with born-digital material?

   o As I continue working on my thesis, may contact you with further questions?

   o Would you like to see a transcript of this interview?

   o Do you have any questions for me?

Appendix II

Resources to Get Started with Digital Records

There is a wealth of resources to help an archivist get started with learning about technology as it pertains to archives. These sources can be helpful for any archivist wishing to develop and contribute to the appraisal of digital materials. Many of these sources are just a beginning. Further development for each repository is most likely needed. Resources accessible online and in person include, but are not limited to the following.

Classes:
Society of American Archivists DAS program
http://www2.archivists.org/prof-education/das

DAS Program: Appraisal
Appraisal of Electronic Records
http://www2.archivists.org/prof-education/course-catalog/f-appraisal-of-electronic-records-das

Fundamentals of Acquisition and Ingest of Electronic Records
http://www2.archivists.org/prof-education/course-catalog/f-fundamentals-of-acquisition-and-appraisal

Advanced Appraisal for Archivists
http://www2.archivists.org/prof-education/course-catalog/tst-advanced-appraisal-for-archivists

Reappraising and Deaccessioning Archival Materials from Start to Finish
http://www2.archivists.org/prof-education/course-catalog/tst-reappraising-and-deaccessioning-archival-materials-from-start-to-f

University College London: UCLeXtend classes (Free)
https://extend.ucl.ac.uk/welcome/index.php

Tools
Archivematica (free, open source)
https://www.archivematica.org/wiki/Main_Page

BitCurator (free, open source)
http://www.bitcurator.net/

Preservica (service, fee)
http://preservica.com/

ArchiveSocial (service, fee)
http://archivesocial.com/

PDF creator (free)
http://www.pdfforge.org/pdfcreator

FTK Imager (fee)
http://www.accessdata.com/products/digital-forensics/ftk

fondz (in development)
https://github.com/edsu/fondz

Appendix III

Interview Participants

Nicole Bubolo:

Nicole Bubulo is the digital preservation archivist at Stony Brook University. Nicole has expertise in working with digitized material, born-digital material, and experience in transition traditional archival repositories into digital archives.

Erika Farr

Erika Farr is the head of Digital Archives at Emory University. As a graduate student she started working on digital library projects which led to her interested in the digital library effort and project management. Through her work with Emory's Manuscript, Archive, and Rare Book Library she became interested in the question of "How do you effectively manage, preserve and provide access to born digital, archival material?" Articles published include: "A Comprehensive Approach to Born-Digital Archives" *Archivaria* vol. 72 (2011): 61-92.

Ben Goldman:

Ben Goldman is the digital records archivist at Penn State University, where he is responsible for developing workflows and practices surrounding the management and preservation of born-digital holdings, and is contributing to the ongoing development of Penn State's microservice-based repository system. Prior to joining Penn State, he was the digital programs archivist at the University of Wyoming's American Heritage Center, where he started the Center's first electronic records program. He has published and presented at conferences on the topic of practical approaches to working with born-digital archival collections. Ben has a Master of Science in Library and Information Science from Syracuse University, with a Certificate of Advanced Study in Digital Libraries. (Taken from the Society of American Archivists Website, http://www2.archivists.org/prof-education/faculty/ben-goldman)

Lisa Henry:

Lisa Henry is the curator archivist for the Julian P. Kanter Political Commercial Archives at Political Communication Center at the University of Oklahoma. Lisa is working to improve both their methodologies and policies regarding born-digital material. She has worked with large born-digital collections including one that contained around 140 thousand born digital objects.

Matthew McKinley:

Matthew McKinley is the digital project specialist for University of California, Irvine Libraries, tasked with planning and managing the development of solutions for the curation of digitized and born-digital campus content. He is interested in making lifecycle management of digital content (especially "difficult" content such as scientific datasets, social & interactive media, and legacy

filetypes) more interoperable and intuitive for content creators, stewards, and researchers/users. Matthew holds an MSIS with a specialization in Digital Archives from the University of Texas, Austin as well as a BA in History from Michigan State University. (Taken from the Archives*Records: Ensuring Access website: http://archives2014.sched.org/event/5db0bc61de0b917d7f69153a5280dbd9#.U9FJGPldXTo)

Sam Meister

Sam Meister is a digital archivist and assistant professor in the Maureen and Mike Mansfield Library at the University of Montana, where he is responsible for developing and implementing workflows and infrastructure to manage and provide long-term access to born-digital materials, as well as leading library-wide digital preservation efforts. Previously, he worked as an archival consultant on a Library of Congress funded project to collect and preserve the records of failed Dot Com businesses. Sam has taught workshops on managing digital content as part of the Library of Congress Digital Preservation Outreach and Education program. (Taken from the SAA website: http://www2.archivists.org/prof-education/faculty/sam-meister)

Jessica Moran

Jessica Moran is the assistant digital archivist of the National Library of New Zealand in the Alexander Turnbull Library. Jessica was previously at the California State Archives were she participated in their Electronic Records Program.

Sarah Romkey

At the time of the interview, Sarah was the archivist for the Rare Books and Special Collections Branch of the University of British Columbia Library. Currently, she is a systems archivist on both the AtoM and Archivesmatica projects. She is a graduate of the Dual MAS/MLIS program at the University of British Columbia.

Lisa Snider

Lisa Snider is an electronic records archivist at the Harry Ransom Center, University of Texas, Austin. Lisa currently manages the born-digital unit, and she works with both legacy and born-digital material.

Dorothy Waugh

Dorothy Waugh is a research library fellow at Emory University in the Manuscript, Archive, and Rare Book Library, working with born-digital material. One of Dorothy's recent presentation was: "Computer Geeks: Reaching out to the Retrocomputing Community as a Digital Archivist," given at the Tri-State Archivists Conference in Greenville, South Carolina on October 17th, 2013.