
Literature in the archives field has explored various facets of the preservation of value during the digitization process, but has not yet fully addressed the sacrifice of intrinsic value when an item is digitized. Little is known about the opinions of practicing archivists regarding intrinsic value’s place in digitization and in preservation reformatting using digital formats. To explore these opinions, semi-structured interviews were conducted with practicing archivists and librarians. Responses were analyzed to assess how these professionals understand intrinsic value as it relates to items that could potentially be digitized. The responses indicate variability in definitions of intrinsic value and reluctance to rely on digital formats for preservation. These results will help archivists develop a more explicit understanding of the value components of analog items that should be preserved in digital preservation surrogates, and could generate discussion about the relevancy of intrinsic value to current preservation and digitization practices.

Headings:

Archives/Conservation and restoration

Appraisal of books, manuscripts, etc.

Archives/Evaluation

Preservation of library materials/Evaluation

Preservation of library materials/Automation
DIGITIZATION FOR PRESERVATION AND EFFECTS ON INTRINSIC VALUE

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Introduction

How much value is lost when a document is digitized? Digitization of archival materials is not a new phenomenon. Archivists have been digitizing documents for the purposes of access and preservation for many years. Some professionals have advocated digitization as a preservation strategy due to its wider applications and greater advantages as compared to microfilming. However, opponents believe that digitization is a poor preservation tool, and should only be considered as a method to increase access (Westney 2007).

There are both advantages and disadvantages to digitization for preservation. One of the reasons cited for digitization’s unsuitability as a preservation tool is its inherent inability to preserve the intrinsic value of whatever is digitized. Intrinsic value is defined by the Society of American Archivists (n.d.) as “the usefulness or significance of an item derived from its physical or associational qualities, inherent in its original form and generally independent of its content, that are integral to its material nature and would be lost in reproduction.” “Staff Information Paper Number 21” (1999), from the National Archives and Records Association (NARA), has further broken down the concept of intrinsic value into nine qualities or characteristics, including components such as physical form that may be the subject for study if the records provide meaningful documentation or significant examples of the form, aesthetic or artistic quality, and general and substantial public interest because of direct association with famous or historically significant people, places, things, issues, or events. Based on these
definitions of intrinsic value, it is impossible for any digitized copy of an original archival item to retain the intrinsic value of the original.

Problem

Imagine a historical or cultural document of great value. It could be a very cleverly forged letter to a president. It could be the only surviving photograph of an indigenous chieftain. This imaginary item has a great deal of intrinsic value. Now imagine that this item is very fragile or rapidly succumbing to mold, and cannot be used by researchers. The archivists who care for this item have decided to digitize it so that people may access it, and so that the item will survive in digital form if/when it deteriorates past the point where it can be kept. From an access standpoint, this is a fantastic plan. From a preservation standpoint, this will help the item survive in the form of a digital surrogate, but the intrinsic value of the original will be absent from that surrogate. Essentially, the original item’s intrinsic value will be lost when the item deteriorates.

Archivists have not yet fully addressed the loss of intrinsic value that occurs when an item is digitized or, in other words, the absence of the original’s intrinsic value in the digital surrogate. Literature that applies intrinsic value to archival practice is very limited. While the loss of intrinsic value may not be important if an item is being digitized solely to increase user access to that object, historical or cultural items that are extremely fragile, unstable, or in danger of destruction, like the imaginary examples above, merit special consideration. When intrinsic value of such items is sacrificed upon digitization, that value will be lost forever when the original is lost. What does this mean in practice? What does it mean to archivists who digitize these items, or to people who
use these items? Archival literature has not yet confronted these questions. Archival research has addressed issues of access and user satisfaction with certain interfaces (Duff & Cherry, 2000) and the ways that expert users view visual and archival properties of digital surrogates of photographs (Conway, 2010b), but researchers have not yet examined users in relation to intrinsic value specifically. Literature has not explored the ways in which users need or want the intrinsic value of at-risk archival items, nor has it examined whether practicing archivists are taking intrinsic value into consideration when they digitize at-risk materials.

**Purpose of Research**

The purpose of this research is to explore the use of intrinsic value in practicing archivists’ and librarians’ decision processes regarding digitization of analog materials for purposes of preservation of value, rather than preservation of the digital copy itself. Preservation of value is loosely defined as the preservation of components of intrinsic value (as defined by the Society of American Archivists (SAA) Glossary and the NARA Staff Information Paper) as well as informational and evidentiary value, historical value, and artifactual value (as defined by the SAA Glossary). Though this study focuses on components of intrinsic value, other types of value are acknowledged so that the concept of value of archival items could be teased apart and more fully understood. Qualitative research of archivists and related professionals involved in digitization projects was undertaken to help scholars and practitioners in the fields of archival and library science understand the effects of digitization on components of intrinsic value. This study explores the usefulness of the current definition of intrinsic value, in light of digitization for preservation, and examines what aspects of intrinsic value, if any, are deemed
necessary or important to preserve by practicing archivists and librarians. This study also explores the potential for applying intrinsic value analysis as a consideration in situations involving digitization for preservation.

Based on the information gathered during the study, I assessed whether or not intrinsic value might be a useful aspect to consider before digitizing items, or whether the definition of intrinsic value might warrant a reexamination or adjustment in order to make it applicable in this age of increasing digitization. This research has also drawn out archivists’ and librarians’ perceptions of users’ needs in relation to intrinsic value, and explores their feelings about the value of digital copies of at-risk items. With those perspectives, this study can begin the exploration of ways that the loss of intrinsic value might be mitigated or transferred.

The study was limited to practicing archivists and librarians. Further delimitations are described in depth in the Study Sample and Recruitment section, below. The results of this study are not generalizable to all archivists or librarians, but they can be of informational use to professionals in many types of cultural heritage organizations. Additionally, this research can provide a launching pad for a comparable study of users of digital archives and special collections.

This study touches on users’ needs and purposes in relation to archival and/or special collections items only through the viewpoints of the archivist and librarian participants; an in-depth user study was not feasible at this time. However, archival scholars are studying issues of user needs in relationship to digital images (see Conway, 2010b), and the results of this study may blend with other user studies to inform future research into users’ perceptions of intrinsic value.
Since this study is exploratory in nature, the types of materials discussed are limited to photographic materials, printed text documents, rare books, and manuscripts, with a few mentions of audio/visual materials. This limitation was intended to serve as a foundation of materials commonly found in archives, on which the beginnings of a wider discussion of intrinsic value can be built and explored. Thus, contemporary digitized books and digital representations of three-dimensional art or museum objects will not be addressed here, due to the increased complexity that they bring to questions of intrinsic value.

**Research Questions**

1. How do archivists use the concept of intrinsic value when making decisions regarding digitization for preservation?
   - Is intrinsic value seen as applicable to decisions regarding digitization for preservation?
   - Are archivists discussing the effect of modern digitization methods on intrinsic value?
   - How might their use of the concept of intrinsic value be different if the digitized form was/would likely be the only form left?
   - What obstacles or difficulties does intrinsic value present in digitization for preservation?
     - Are there other obstacles to digitization for preservation (e.g., physical degradation caused by the digitization process, loss of authenticity)?
What/How much value do archivists believe is lost when items with intrinsic value are digitized for preservation?

What digitization standards are applicable here?

2. How do archivists perceive users’ attitudes toward the loss of intrinsic value in digital surrogates?

What components of intrinsic value are deemed useful or necessary to users?

**Literature Review**

**Introduction**

Archival scholars have identified numerous values of archival objects, including informational, evidentiary, and intrinsic. Literature in the archives field has explored various facets of the preservation of value during the digitization process, but archivists have not yet fully addressed the sacrifice of intrinsic value that must be made when an item is digitized. Literature that applies intrinsic value to real-world situations involving the practice of digitization for preservation is very limited. However, intrinsic value can be used as a pathway into meaningful discussions of significant or valuable components that may be lost in the transition from original paper item to digital surrogate. This literature review will briefly explore the development of intrinsic value and the contentions related to its use. Similar concepts that are applied to other formats, such as meaning and materiality of photographs and significant properties of digital objects, will be explored. From there, an overview of the concept of digitization for preservation will lead us into studies of users and institutions that focus on questions of what may be lost or gained through digitization, and how that can affect users and culture. This review will
show the gap in the literature in terms of addressing intrinsic value (or comparable values) in the face of digitization for preservation, and will establish the usefulness of exploratory studies to address that problem.

**Intrinsic Value**

The concept of intrinsic value existed in the archives field long before being formally defined. It was finally defined and explained by the Committee on Intrinsic Value, formed by the National Archives and Records Service (NARS, now the National Archives and Records Administration, or NARA) in 1979. The committee was formed because NARS needed a way to decide which records needed to be preserved in their original form once suitable copies had been made, and which originals did not need to be kept after suitable copies were made.

The committee created “Staff Information Paper Number 21” in 1982. According to a current employee of NARA, it was very difficult to rewrite this document for the 1999 web version of the document. As a result, the document was reformatted to be put online and some of the wording may have been changed, but the content remained fundamentally the same. She does not believe that NARA intends to update the definition again in the future (personal communication, February 25, 2011).

In the web version of the “Staff Information Paper” (1999), the committee defines intrinsic value as “the archival term that is applied to permanently valuable records that have qualities and characteristics that make the records in their original physical form the only archivally acceptable form for preservation.” They also explain that intrinsic value can relate to physical aspects of the record or the information that the record contains. They outline the nine attributes or features of records that can be said to have intrinsic
value [the following are directly excerpted from the document, and were given to interviewees (Appendix B)]: 1) physical form that may be the subject for study if the records provide meaningful documentation or significant examples of the form; 2) aesthetic or artistic quality; 3) unique or curious physical features; 4) age that provides a quality of uniqueness; 5) value for use in exhibits; 6) questionable authenticity, date, author, or other characteristics that are significant and ascertainable by physical examination; 7) general and substantial public interest because of direct association with famous or historically significant people, places, things, issues, or events; 8) significance as documentation of the establishment or continuing legal basis of an agency or institution; 9) significance as documentation of the formulation of policy at the highest executive levels when the policy has significance and broad effect throughout or beyond the agency or institution (Staff information paper, 1999).

The committee intended that these qualities be applied at the series level rather than the item level, and noted that specific qualities should only be applied at series level (for example, almost anything can be deemed to have a “unique or interesting” physical feature, but that characteristic of intrinsic value should only be applied to series that are very good examples of that interesting feature). The final portion of the document gives more details on how the concept of intrinsic value should be applied. The authors note that the concept is fixed, but its use will always be subjective. They recommend that records which possess any of the nine characteristics should be kept in their original forms, since the qualities that they outlined would not be present in any copies of the originals.
In her article examining the original NARS definition of intrinsic value, Shauna McRanor takes a critical look at intrinsic value from its appraisal standpoint, rather than at its potential applications in digitization. She notes “the inconsistent use of vocabulary among archivists” (McRanor, 1996, p. 403), and offers examples of papers by Hans Booms and Terry Eastwood which argue that intrinsic value is not objective, that the value people give to documents is not inherent in the document itself. One conclusion she reaches is that “‘subjective’ notions of intrinsic value proffered in the archival literature and elsewhere do not support the Committee’s ‘objective’ sense of the term” (McRanor, 1996, p. 404). Though the Committee’s definition of intrinsic value states that only one of the nine criteria must be met for a record to be intrinsically valuable, McRanor’s research seems to argue that items should never be collected or accessioned for the presence of just one criterion. Many of the criteria are judged by McRanor to be not impartial (for example, #5—see Appendix B) or not intrinsic (#1, #4). She expresses concern that archivists using intrinsic value as a preservation criteria would make selection choices that would alter the historical record, and she concludes that “all nine criteria can be fundamentally reduced to subjective ascriptions of value which cannot be argued from logic and, most importantly, cannot ensure that the records preserved as a consequence of selection are impartial testimonies of transaction” (McRanor, 1996, p. 409). She points out that it is unclear how one would go about assessing intrinsic value at the series level. She also questions the microfilming of records, and explains that “it is fundamentally incorrect to think that the preservation of information, as opposed to records, is the ultimate goal of the archivist” (McRanor, 1996, p. 410). Overall, McRanor argues against intrinsic value and its useful, objective application to archival appraisal. I
intended for the research study presented here to assess, in part, whether other archivists and librarians found similar faults with the National Archives definition of intrinsic value, and if they shared her feelings about the preservation of information as opposed to records.

Judi Cumming takes a broader view in her 1994 article, looking at the evolution that the concept of intrinsic value by focusing on the acquisition policies of the National Archives of Canada regarding private records. The Archives adopted an acquisition policy in 1988 which “stated that the content of new types of records was more important than their medium” (Cumming, 1994, p. 235). Especially in terms of private records (as opposed to public or government records), Cumming sees that intrinsic value is beginning to take into account the need for archives to identify collections that are valuable in terms of the institution’s mandate. In this respect, her article is unique; literature dealing with the concept of intrinsic value generally seems to implicitly acknowledge that all institutions must collect based on their mandates or missions, but usually does not fold that into intrinsic value.

In contrast to Cumming’s joining of intrinsic value with acquisition decisions and McRanor’s assessment of intrinsic value as a potential appraisal strategy, Menne-Haritz and Brübach (2000) assert that appraisal and acquisition decisions should be made before the analysis of intrinsic value. From their point of view, intrinsic value and its criteria should be used to guide decisions about whether to convert (reformat) materials. They connect intrinsic value with evidential value—the evidential value that is provided by the intrinsic value (which includes “external formal features” and is often referred to as “testimonial quality”) cannot be converted to microfilm or digital images. They also
contend that the goal of preservation of items with intrinsic value is to stabilize their condition, which “cannot be achieved by digital means” (81).

Menne-Haritz and Brübach (2000) list a variety of characteristics that cannot be reproduced by usual reformatting methods (e.g. binding technique, paper quality), those that can only be reproduced by special types of color reproduction (e.g. use of colored ink notations), and those that are reproducible through reformatting (such as text in written documents). Like the authors of NARA’s “Staff Information Paper,” Menne-Haritz and Brübach list and explain nine characteristics or “prerequisites for the preservation of the original” (2000, p. 90). Most of the qualities that Menne-Haritz and Brübach list can be mapped to qualities in the NARA paper, but there is not a direct correlation between both lists. Menne-Haritz and Brübach include “testimony as to the genesis of a work” (2000, p. 90) and “testimony as to the history of archive and library collections” (p. 91) along with qualities that mirror NARA’s, but the “legal evidence” (p. 91) prerequisite that they list does not quite match up with NARA’s qualities #8 and 9 (see Appendix B). This incomplete overlap of qualities of intrinsic value between papers from two different sources suggests the difficult-to-define nature of intrinsic value, and underscore the subjectivity in determining what characteristics make something intrinsically valuable and therefore worthy of preservation in its original form. However, subtler differences may be due to the difference in languages; Menne-Haritz and Brübach’s article was translated from its original German. Additionally, the version of their article that I viewed contained no footnotes or citations, so I cannot determine with any certainty whether (or to what extent) the authors were influenced by NARA’s “Staff Information
Paper” (1999); we cannot know whether or not they deliberately chose different qualities than NARA.

While intrinsic value was intended to be used in order to justify preserving original artifacts, collecting institutions have not always considered intrinsic value before disposing of originals. This spurred the article of Lynn Westney (2007), an advocate of intrinsic value and critic of digitization for preservation. Westney argues against digitization for preservation because it destroys the intrinsic value of the documents. He also takes concepts from the NARA document a step further, claiming that not just the intrinsic value but also the evidentiary value will be lost if a digital surrogate is made and the original not retained, since not only material form but also context and circumstances of origin cannot be transferred to the surrogate. Westney also raises the concern that the incomplete view of the record that a digital surrogate provides would render surrogates inauthentic, either by failing to convey details like the age of the paper or type of ink, or by being vulnerable to alteration, since digital surrogates can be altered with less signs of change than their physical counterparts.

Most literature implies that originals are generally kept after digitization, but little information is available that explicitly addresses how well they are cared for. Counter to the generally preservative nature of archives, Westney (2007) identified one case in which a library was purged without considering the intrinsic value of the purged items, although he does not mention whether digital surrogates were kept in lieu of the originals. It is conceivable that institutions running out of shelf space might put digital surrogates on a server and dispose of the original physical items, though library and archival perceptions of throwing away materials might either discourage this sort of practice or
cause it to remain unmentioned. To deter practices like this and encourage collecting institutions to be aware of the real or potential rarity of their holdings, Westney asserts that digitization is not a preservation tool. When one considers this conclusion, it is important to note that NARA does not recommend that copies of records not be made, just that the originals be retained. One should also keep in mind that microform was the preferred medium for making archival copies when NARS created their guidelines in 1979; today, the preferred form is digital surrogates (Westney, 2007).

From research in the literature, it is unclear as to whether or not Westney’s assertion has caused institutions to decide against preserving high-quality digital surrogates of items with intrinsic value. However, anecdotal evidence that I had obtained through casual discussions with archivists prior to this study suggested that concerns about the appropriateness of digitization for preservation have dissuaded at least a few. Consequences of not digitizing rare or intrinsically valuable items have not been thoroughly explored in case studies,¹ though the reasons for this lack are unclear. Perhaps there is an unspoken understanding of the potential losses that could result from this sort of behavior? It is also possible that scholars and practitioners do not wish to think about such consequences, or the issue has not crossed their minds. One can also conclude that such case studies would be very difficult to perform, since consequences of failure to act can be subjective and difficult to measure.

Though the definition of intrinsic value presented by NARA implies that this value cannot be transferred to a digital surrogate, scholars have not yet fully explored whether metadata can help to transmit some of the intrinsic value qualities to users of digital surrogates, though Sassoon (1998) proposes metadata as a possible partial solution.

¹ I have found none so far that address this topic.
to the value loss problem. In theory, more voluminous and detailed metadata might be able to provide information about the original material and processes used to create it, the age and physical condition of an item, or an explanation of the context of creation or use. However, no studies have addressed whether metadata can satisfactorily mitigate the loss of intrinsic value from a digital surrogate.

**Significant Properties**

While scholars and practitioners in specialized fields (e.g., photography) have given thought to aspects of individual analog formats that they considered important to preserve, none of those conversations seem to be intentionally tied to the archival concept of intrinsic value. Hedstrom and Lee (2002) looked at these discipline- or format-specific definitions of significant properties as well as a variety of other concepts (such as “intrinsic value” from archiving and “affordances” from computer science), and created an inventory of over 800 significant properties for *digital* objects (e.g., font styles, document layout). They recognized that the importance of preserving significant properties had been considered decades earlier, when reformatting analog materials into microfilm was widely practiced. They developed their inventory to address the management and preservation of digital materials, especially the conversion of digital materials from one format to another. They worked to create a broad model which could guide preservation decisions for digital materials. While the concept of significant properties is broader than intrinsic value alone, it could provide a platform on which to place components of intrinsic value, or a launching point from which to begin a discussion about those components and how we can work to preserve them when digitizing analog materials.

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2 The inventory was not included in the article.
**Significant properties and context.**

Hedstrom and Lee (2002) also contribute to the discussion about the importance of preserving the context of digital objects. While they assessed the significant properties behind hyperlinks that give some types of digital objects part of their meaning by linking them with other pages, other scholars have picked up on the loss of context in other forms, such as photographs (Sassoon, 1998). Taking the images out of their context by digitizing them places greater importance on aesthetics alone, rather than the associations and relationships of the physical photographs. In addition, taking images out of their context by digitizing them impairs understandings of the photographs meaning and function (Sassoon, 1998).

**Significant properties and users.**

Hedstrom and Lee took their research about significant properties further in an empirical, exploratory study that assessed user reactions to different formats of a digital object (Hedstrom et al., 2006). Their goal was to understand which aspects of digital items were considered to be necessary or valuable by users, instead of the aspects considered to be valuable by archival scholars. More developed here than in the earlier article, significant properties are defined as “features, attributes, or properties that impinge upon future use and understanding… [and which] warrant ongoing preservation due to their demonstrated or predicted contributions to the appearance, interpretation, or usability of digital objects” (Hedstrom et al., 2006, p.161-162). The authors reiterate the idea that considerations of properties that must be preserved should take use into account. In the second user study that they performed, they examined participants’ responses to three different formats of the same document. They used Thinking-Out-Loud protocol
for this test in order to show the thought processes of the subjects and to get them talking about their observations of important aspects of the digital objects. The tests assessed how subjects attempted to verify integrity and authenticity of a university president’s speech document in different formats (MORE, Microsoft Word, and Text), and what observations they made about those formats. They concluded that participants did not place a great importance on authenticity or working with the original document that the president had created (versus a migrated form of the same document); rather, usability was the participants’ primary concern when researching from these documents. The authors acknowledge that their results are not generalizable across different types of user groups and document types, but this study gives a good example for other researchers to replicate when performing user reaction studies for other formats.

**Significant properties and photographs.**

Joanna Sassoon (1998) brings the idea of significant and intrinsic properties together with digitization in the context of photography. Though she does not specifically address intrinsic value in the archival sense, she uses language such as the “materiality and sources of meaning” and “material clues” (Sassoon, 1998, p.10-11) of photographs to tap into that same concept. She draws materiality and meaning into the digitization process, and explores issues of authenticity and loss of meaning. She addresses photographs’ sources of meaning, which are derived not only from the images themselves but from the photographs’ relationships with external things such as other photographs in the same collection, associated non-photographic content, etc. Digitizing photographs can remove important pieces of information from the photographs. One
such example is the size of a photograph, since digital surrogates’ size is not determined with inches or centimeters, but rather with bits and pixels.

Sassoon questions whether and to what extent it may be possible to protect or replace context or materiality that is lost during the digitization process, and notes that metadata can be used to give digitized images some of their former value. Though she proposes it as part of a solution to the loss of meaning through digitization, she does not address in depth how this metadata should be created, what aspects of value it should attempt to convey, nor whether it is truly feasible (in terms of time, money, and human effort) for archives to create full and descriptive metadata at the item (or series) level. However, she does acknowledge that there may be struggles for resources divided between the drive to digitize at the expense of physical preservation of the original.

Sassoon (1998) also poses the question of whether future generations of users might become so focused on what they see on their computer screens that original photographs might become unimportant to them and the collecting institutions by extension. Other studies have also confronted questions of users and their various needs (Duff and Cherry, 2000; Hedstrom et al., 2006; Conway, 2010b). Sassoon (1998) shows that scholars need to investigate many more questions in this area in addition to questions of value, such as what the ethical responsibilities of archives and digital collections institutions really are, and what kind of resource allocation problems might be actually arising from digitization.

Capell (2010) continues the exploration of digitization and questions of value as they apply to photographs in her case study of damaged acetate negatives. She acknowledges that most institutions see digitization as a boon for access more than as a
preservation tool. While digitization is less accepted as a preservation strategy than an access strategy, she makes the case that digitizing can be the best choice for recovering content from degrading items like negatives, which in some cases are damaged beyond usability. Digitization is, in this case, not seen as a potential damaging force (Perminova et al, 2006) but a recovery effort, which contradicts Westney’s assertion that digitization should not be used for preservation.

Capell (2010) explains the different signs of deterioration and the aging process of negatives. Her institution was pushed into action by obvious signs of damage; the collection in question had high research value but had become unusable. The decision to digitize was made after much research into different options and costs. She brings the fragility inherent in certain physical formats sharply into focus. Overall, her non-empirical study contributes a real-world example of how the previously discussed concepts function in an intrinsically valuable collection where a decision needs to be made. In my research, I hope to ask other institutions some of the same questions that were explored in this case study, relating to the catalysts for digitization-as-preservation action and the decisions that are made along the way, as well as thoughts on the resulting increase or decrease in value/what values are translated to (or added to) the digital surrogate.

Sassoon explains that institutions interested in preserving items via digitization need to make high quality digital masters, and should set and follow standards in regards to preservation metadata, but she does not explore the potential values of other kinds of metadata. Capell’s case seems highly unique in that digitization actually enabled more of the original image to be seen in the digital surrogate than the degraded physical original
allowed. Due to the nature of photographic negatives, it is unlikely that this kind of miraculous recovery would be possible for other formats, but it begs the question of whether some values may in fact be added by digitization, even though “intrinsic value,” as defined by the National Archives, is not translated to the digital surrogate.

**Digitization for Preservation and Intrinsic Value**

Archivists and librarians are engaged in conversation about the role of original physical materials in this age of digital collections. The Council on Library and Information Resources assembled a task force to report on these issues in 2001 (Nichols & Smith). The task force considered what qualities made it essential to preserve and retain an original item in its original form (for which they use the term “artifact”), when preservation reformatting would be useful and appropriate, and compiled best practices for preservation as well as recommendations for future research. They did not focus specifically on archival items or special collections, but their recommendations are very applicable to these materials.

Task force members noted that some types of research depend on original physical forms. They also list the standard qualities by which library preservation experts determine whether an artifact needs to be preserved in its original form: age, evidential value, aesthetic value, scarcity, associational value, market value, and exhibition value. All of these qualities can also be found in the NARA definition of intrinsic value (Staff information paper, 1999). The CLIR report (2001) also asserts that research value is primarily evidentiary value, which is indicated by originality, fidelity, fixity, and stability. The authors acknowledge the challenges inherent in weighing
different qualities of artifacts and the value judgments that must be made when preservation methods are considered.

They reiterate that creating surrogates to reduce handling is a key preservation strategy, and they confirm that microfilming in the standard preservation reformatting method for “low-use materials” (Nichols & Smith, 2001, p. 25). They recognize digital formats as beneficial for access and advanced functionality (in terms of OCR and other features), but they explain that digitization is not yet an acceptable preservation format because “there is as yet no reason to be confident that digital files will last as long as microfilms, or be as easy to manage over time” (Nichols & Smith, 2001, p. 25). Though they do not view the digital surrogate as an acceptable replacement for a rare item, this study investigates whether digitization might still be an acceptable last-ditch effort to preserve delicate or endangered materials, and how archivists and librarians could make digital surrogates capture as much of the original item’s intrinsic value as possible.

Archivists and librarians involved in preservation reformatting, or creating copies of items for preservation purposes, continue to grapple with the question of whether or not digital formats can be suitable preservation surrogates, especially when faced with deteriorating collections. Steven Puglia and Kara M. McClurken addressed this topic in their chapter of *Who Wants Yesterday’s Papers?* (2005). They begin their discussion by noting that “often, when collections are so unstable that there is a risk of losing the originals entirely, the only option is reformatting” (Puglia & McClurken, 2005, p.141). They note a number of issues to consider when choosing whether and how to reformat items, including life expectancy of the proposed format and the “intrinsic value of the originals” (Puglia & McClurken, 2005, p.142), and acknowledge that there is almost
always intrinsic value in an original item. This study intended to address whether and to what extent archival and librarian professionals were actually taking intrinsic value into consideration as Puglia and McClurken suggested.

Puglia and McClurken also created a reformatting pyramid to demonstrate the increased functionality, longevity, fidelity, and cost that differentiates preservation reformatting options from access options. They explain the amount of effort and money that must go into maintaining digital materials as opposed to the relatively easy-to-preserve microfilm, which has been (and perhaps still is) the standard for preservation reformatting of paper-type materials. They show that there is much left that must be determined before we will have standards for digital reformatting of many types of materials; this will take time, just as it took time for microfilm to become the reliable standard format it is today. In the meantime, they recommend solid data security and preservation planning. They conclude that today’s institutions should consider a mix of analog and digital formats for preservation, depending on what suits their budget, purposes, and materials.

Unfortunately, most scholarship on digital preservation does not specifically address the question of intrinsic value; in Puglia and McClurken’s article, intrinsic value was only mentioned in passing, and the CLIIR task force report discusses the value of original physical artifacts in much broader terms. Paul Conway’s article (2010a) sheds some light on this apparent gap in the literature. When he discusses the ways that preservation specialists are working to integrate digitization into their repertoire, he talks about digitization for preservation in terms of preserving information and integrity (in the intellectual rather than physical sense) rather than preserving elements of value that might
be independent or additional to the purely informational content of an image or
document. This seems to counter McRanor’s opinion that archivists should focus on
records as a whole rather than information value alone. He also asserts that preservation
should always be related to *use* of digital objects, rather than being based purely on
intrinsic value. However, real world preservation situations may come down to value
judgments made within the bounds of limited financial resources. This, too, could
contribute to the lack of literature addressing intrinsic value and digitization; perhaps
funding constraints prevent the preservation of intrinsic value during the digitization
process from being taken into consideration, when digitization for access purposes is
such a popular topic and activity in the field.

Conway (2010a) departs from previous literature by making a distinction between
“digital preservation” and “digitization for preservation,” terms which have hitherto been
used somewhat interchangeably. He defines “digitization for preservation” as the
creation of new digital objects that are worth preserving in the long term, and “digital
preservation” as protecting the value of those digital products (through processes like
migration, etc.), whether they were born digital or analog. Since his work is so new, it
remains to be seen whether this distinction will be picked up by the archival and library
fields.

Like Sassoon, Conway (2010a) also addresses the loss of context inherent in
certain forms of digital information, like mass book digitization projects in which items
have become isolated from their original environments and histories, and might no longer
reflect the creator’s original purposes. He also explores a number of other dilemmas
facing preservation of cultural heritage in an increasingly digital world. One dilemma is
essentially the internal conflict of archivists trained and successful at dealing with book and paper items who are now confronted with bits and bytes. It is possible that this issue of a divided professional identity has prevented the concept of intrinsic value from being applied on the other side of the divide. Hopefully, in-depth interviews with archivists in the field will shed light on this question.

In his discussion of the quality dilemma, he focuses again on preserving information quality rather than other values of a digital item, but he does note that the funding dilemma could present a problem for the value of original artifacts, by preventing institutions from considering their collections at the item level. He calls for a discussion in the field to redefine quality standards for digitally preserved items.

**Effects of Digitization**

Before research can truly explore the effects of digitization for preservation on the value of archival items, researchers must learn more about archivists’ thoughts about digitization of fragile materials. Some archivists avoid digitizing fragile materials, despite the potential gains, because they are concerned about damage to the originals. To assess these concerns about damage, studies have been conducted to assess the ways in which digitization processes and equipment affects paper items. Perminova et al. (2006) studied the effects of three different types of scanner on the physical properties of three different types of paper. The study concluded that digitization affects the tear resistance and relative lengthening of paper, as well as the growth and development of mushrooms, indicating changes in the papers’ material properties and bio-stability. However, the ambiguities and variation expressed in the quantitative results show the need for further investigation into individual machine’s effects on paper and on other materials that may
be culturally valuable and/or especially fragile, such as onionskin, photographic negatives, etc. This area of scholarship would benefit from further testing that explored scanners models that are more current or most popular. Testing of currently available technology would hopefully establish not only which methods of and machines for digitization are the safest in terms of preservation of the original, but also which machines produce the highest-quality digital image, which is an area that Perminova et al. (2006) does not explore. Future discussions of aspects of an original item’s intrinsic value that might be translated to the digital surrogates would benefit from a better understanding of what attributes of intrinsic value (e.g. “unique and interesting” features of an item) can be captured via a digital scan. However, Conway (2010b) urges that researchers intending to advance archival digitization do not get bogged down in technical specifications at the expense of user needs and expectations.

Moving Theory into Empirical Studies

Some scholars have conducted research which takes an empirical approach to the assessment of digitization and digitized items. In 2000, Duff and Cherry conducted a study to compare the use of items and user satisfaction in three formats: paper, microfiche, and Internet (referred to as WWW). The authors conducted user surveys for each of the three media, organized focus groups, and analyzed server logs. The surveys revealed that users’ purposes differed based on format. The surveys also showed that users of different formats used different features (e.g., full-text, table of contents). The researchers also found that the need to look at the original document varied among the groups, though this could be a function of the different users gravitating towards a certain format rather than strengths or weaknesses of the formats themselves. Studies like this
one could be done in combination with studies of significant properties to further explore which aspects of a document researchers find most useful.

Duff and Cherry’s study asks valuable questions that could be applied to users’ needs for intrinsic value, but the survey questions did not allow for subjects to explain their answers, unlike the Thinking-Out-Loud protocol used by Hedstrom et al. (2006). Also, this study’s sample was limited to users of one particular online archival system, and users at university libraries. Also, a large number of the users in this study were using the documents for personal reasons. Thus, the results may not apply to all types of user, or to all online archival systems, since each may put forth different quality digital copies, different metadata, etc. However, their work does give researchers a starting point to discuss how people use documents in the different formats. In the Hedstrom study, users were recruited on a university campus and asked to think like researchers, which might have an effect on the way they feel about different formats. Future studies could be done on different types of users.

Duff and Cherry’s questionnaire also asked which formats users liked most and least, and which they thought would be most useful. The answers to these open-ended questions indicate that access and ease of use made the Internet format very attractive to the majority of subjects. The research proposed in this paper would build on this knowledge by asking users what elements of intrinsic value they felt were present or missing, and whether this helped or hindered their work.

Paul Conway (2010b) performed an exploratory study that links theories of photographic materiality and remediation with expert users of digital photograph archives. Through two stages of semi-structured interviews with seven experts, he
examined users’ attitudes on the relative importance of visual aspects, technical characteristics, and archival properties, and how these three things influenced their choices of which photographs to use. Conway found that users perceived additional value in the digital surrogates in terms of the richness of the data available, the enhanced usability of the digital format, the ease of access, and also in the emotions that the images stirred.

Conway (2010b) also found a division of opinion regarding whether or not it was vital to work with the analog originals in addition to the digital surrogates, though the three in favor of working with both formats “emphasized the passion that derives from intimate familiarity with the sources, rather than from the need to overcome the limitations of digital surrogates” (Conway, 2010b, p. 445). For one participant in particular, Conway explains that the “Value that might be derived from the material properties uniquely embedded in the source photograph are, at best, of tertiary importance, after the visual evidence transmitted through the digital surrogate and the relevant contextual information written on the object or derived from the image itself.” (Conway, 2010b, 447) Contradictory to Westney’s (2007) concerns, Conway’s results do not show that these participants felt that context was missing from the digital images. Furthermore, the relationship that the participants felt with the photographer or the events/persons depicted in the image was able to survive the process of digitization and transmission to the viewer though a computer. Conway also found that all of the participants believed that the digital surrogates in question possessed archival properties, though these properties were not explored using archival terminology, as the proposed study hopes to do.
Overall, Conway’s study (2010b) shows both the variation of user needs and that the digital surrogates are quite valuable to researchers. His study opens the door to further studies on quality of digital surrogates in archives, and proposes a need for more flexibility in digitization procedures, and a looking past the technical specifications. In response to portions of that call to arms, the proposed study will be the first step in advancing the archives field closer to defining the archival properties that archivists believe can and should be provided to meet user needs and expectations.

Assessments of users’ reactions to digitized material cannot be done if institutions do not digitize items. In 2010, Manaf and Ismail conducted an exploratory case study to gain information on the current practices of digital resources and their management at Malaysian cultural institutions, and to underline the risks involved in digitization of cultural resources. The authors interviewed employees at three Malaysian national cultural institutions to probe any patterns in their digitization initiatives. Specific contexts, elements, and sub-elements were assessed, including the purpose of digitization projects. Respondents from two of the institutions indicated that their institution’s main purpose in digitizing materials was for both improved access as well as preservation; the third institution digitized items to create an inventory, though it was not clear whether the inventory was for staff or public use. The author concluded that preservation of digital images was not being thoroughly addressed by the institutions.

In these results, it is unclear what the authors mean by the term “preservation”—the study does not assess whether institutions prioritize preservation of the items themselves, preservation of the value or information that they contain, or long-term preservation in digital form. Perhaps more work like Conway’s article (2010a) would
help solidify the terminology and boundaries in this area, so that conversations about digitization and preservation could be clarified. Manaf and Ismail’s study (2010) reflects the attention to the subject that can be seen in much of the current archival literature on digitization—a focus on preservation of digital items, rather than preserving the value of items that are digitized as they go through the process, so that the digital copies can reflect as many of the valuable facets of the analog item as possible. The research study proposed here will separate the issues of preservation of value from preservation of informational content in digital copies so that archivists can make sure that they are addressing both aspects. Additionally, the proposed study will not address preservation at the institutional level, as Manaf and Ismail did. Instead, it will address the individual perceptions of practicing archivists, to provide a greater level of granularity. Still, studies of institutions such as Manaf and Ismail’s can lead researchers into a deeper exploration of the digitization for preservation of cultural materials beyond the borders of the United States. Previous discussions in this paper about intrinsic value can be applied to cultural materials as items of special interest.

Summary

While there is little literature that specifically addresses the sacrifice of intrinsic value in the process of digitization for preservation, many different threads of research and scholarship can be drawn together to create a fuller picture of the environment where this gap in the literature exists. Intrinsic value has been defined, but those definitions were created to apply to a world of paper versus microfilm. Tensions still exist about the usefulness and appropriateness of digitization as a preservation tool, and scholars in the field are not using “digitization for preservation” as a consistent term at this point.
Scholars in different fields are expressing similar ideas of value which goes beyond the information in a document, but they are using very different language (e.g. intrinsic value, significant properties, materiality and meaning). Much of the scholarship in this area is theoretical or not yet fully embraced by the field of archives; Hedstrom and Lee (2002) explain that their work is formative, and that more input is required to help scholars understand which properties matter in which contexts and to whom. My research attempts to identify the nature of such discussions about analog materials that might be preserved in digital format as well as the language that people are using to address value concepts, and to assess whether there is a need for a model like Hedstrom and Lee’s to guide analog-to-digital preservation decisions and practices. Archivists and others who work with valuable historical or cultural materials have a vested interest in the value of their collections. That interest includes making sure that aspects like intrinsic value are not neglected in the rush to make items digitally available for general public access.

Method

Description of Semi-structured Interview Strategy

Research interviews are one-on-one conversations begun by the researcher with a specific focus in mind, meant to elicit relevant information about people’s experiences (Wildemuth, 2009). In-depth interviews aim to understand the experiences of individuals and the meanings that each person makes out of those experiences (Seidman, 2006). Types of interviews can range from very structured, using a fixed set of questions with limited response choices, to unstructured, using no fixed questions but instead keeping guiding ideas in mind (Wildemuth, 2009). This research project employed the semi-
structured interview method. This method typically includes a pre-written set of questions with the flexibility of being able to modify the order or the questions or their working, and adding or omitting questions as necessary (Wildemuth, 2009). Questions are mostly open-ended, and meant to encourage participants to recreate and explore their experiences (Seidman, 2006). The list of questions used in this research project can be found in Appendix A, with the definition of intrinsic value that was presented to interviewees in Appendix B.

Due to the exploratory nature of this research, qualitative rather than quantitative analysis is appropriate. Semi-structured interviewing was determined to be the best method to use for this study, because it provided an appropriate level of flexibility and allowed the researcher to pursue alternate questions if the interview reveals unexpected information. Enough was known about intrinsic value and its possible effects on digitization for preservation to create both open-ended and close-ended questions.

**Role of the Researcher**

The researcher brings personal biases into this study, placing value on the intrinsic qualities of archival items and believing that digitization can be a viable method for preserving fragile or endangered archival items. These personal views may have affected data collection and interpretation. Steps taken to make explicit and neutralize this bias included pretesting the interview schedule, periodic reviews of coding, and recording all steps of the research and analysis with clarity and detail.

**Study Sample and Recruitment**

Initially, this study was intended to focus on archivists dealing with digitization and collections with intrinsic value. For the purposes of this study, the target population
was defined as persons who had obtained a graduate level education (not necessarily an MLS) and who had taken library or archival education courses or had received related training; alternatively, a suitable amount of experience working in an archive or library will suffice. In the recruitment process, I initially targeted only archivists, but soon realized that the people who worked with the types of materials I intended to ask about were librarians who worked with special collections materials. This finding caused me to expand my study sample to include librarians. The sample for this study was archivists or librarians who met the following criteria: 1) were located within reasonable driving distance of Chapel Hill, NC or Washington, DC (convenience sampling), 2) worked in an archive or library that houses items and/or collections that have intrinsic value, as judged by the NARA “Staff Information Paper” (1999) criteria, 3) worked in an archive or library that has digitized or was in the process of digitizing some or all of its collections. Due to the exploratory nature of this research, the sample was limited to archivists who work mostly with print documents, manuscripts and/or photographic materials, though one archivist who worked with oral history audio/visual materials was included in the study. I attempted to choose multiple participants from three types of site: governmental libraries/archives, academic libraries/archives, and historical libraries/archives. I identified archivists who met the above criteria by researching special collections at archives and libraries in the target locations.

Two exceptions were made to the above criteria. In one case, a digital collections department employee with little traditional archiving experience was chosen because he could provide a broad view of the digitization efforts at his institution and was familiar with issues that museums and archives are confronting in the arena of preservation and
access of digitized materials and born-digital items. The second exception to the above criteria involved the inclusion of two museum employees; museums were excluded from the initial definition because I did not want to apply this study to art objects such as painting or sculptures. The two museum employees in question worked at a museum with a historical focus, which actively collects historical records in many formats.

Ultimately, I conducted nine interviews and spoke with ten librarians/archivists—one interview I conducted serendipitously included an extra archival professional in the office who was able to partially participate in the interview. In cases where it was difficult to identify which archivist or librarian at an institution would have the decision-making experience and collection experience necessary to meet the needs of this study, the head of the archival department or library was contacted. First contact with potential participants was made via email. The initial email included a brief description of the study, confidentiality statement, and an approximate length of time that the interview will take. Participants in this study were offered a $10 gift card for their participation.

Data Collection, Recording, and Analysis Procedures

The interview schedule (Appendix A) consists of 12 questions, with a few contingency questions dependent on the participants’ responses. The first question is in part a rapport-building question, and helped me gauge how to proceed with the interview. The next two questions explore the participant's understanding and use of the concept of intrinsic value. The fourth, fifth, sixth, and seventh questions explore ideas surrounding digitization and its applicability to preservation. The eighth, ninth, and tenth questions pull together the idea of digitization for preservation with intrinsic value. Interview
questions 1-10 address research question 1, while the final two interview questions address research question 2.

The interview schedule was pretested by practicing archivists and archival students to improve clarity and reduce bias. Once pretested and revised, the interview schedule was used to gather data from the participants in semi-structured interviews. Participants were first contacted via email, and interviews were conducted over a three-week period. Interviews took roughly 30 to 60 minutes to complete, and usually took place in the interviewee’s office. During the interviews, I took brief notes, but most of the recording was done by an audio-recording device. I made partial transcriptions of key points in the recordings, and made further transcriptions when the need arose.

I performed data analysis using NVivo software to code and sort the transcripts. Data analysis involved an inductive, open coding approach, similar to that which is used to develop grounded theory (Rubin & Rubin, 2004). I began the coding process with preliminary coding ideas from the reviewed literature before immersing in the interview transcripts and letting themes emerge from the data, in an approach similar to the directed content analysis discussed by Wildemuth (2009). Since directed content analysis is typically used to corroborate or extend theories and conceptual frameworks, this approach will be useful to either validate or perhaps reevaluate the concept of intrinsic value defined by NARA. In order to increase trustworthiness, I documented the definitions of my codes, going back to recode when definitions were revised, and constantly checking my coding against the definitions to ensure that I was staying true to my intentions, as well as staying true to the interviewees’ responses. Negative case analysis was employed as necessary. In order that other researchers may consider
patterns in the responses, a table that maps interviewees to their institution type (Table 1) is included in the Findings section.

**Potential Limitations**

One limitation of this study was the small sample size and the uneven distribution of types of professionals and institutions that participated. This prevents generalizing the responses given in the interviews to the entire archivist and librarian population, though it does shed light on issues that may be of concern to others. Also, the wording of the questions may have been biased because of my own preconceived ideas about the subjects in question. Furthermore, the vocabulary that I used in the questions could have presented a problem, in that some of the archival terms may have had subtly different meanings to different participants. Since part of the purpose of this research is to explore those meanings, it did not seem wise to provide prescribed definitions of terms before beginning the interviews.

**Ethical Issues**

The project was approved by the Institutional Review Board of the University of North Carolina at Chapel Hill before recruitment and sampling began. The purpose of the study was made clear to all participants before the interviews. Participants had the opportunity to receive a full description of the research project and/or ask questions once the interview was terminated. Informed consent was obtained from all participants. Verbal and written confirmations of the confidentiality of responses were given. Participants have been assigned pseudonyms for purposes of data analysis and reporting of results. In order to minimize the risk of participants’ colleagues determining what
information was provided by a specific participant in the final write up, I recruited at least two participants from each type of institution (see Table 1, below).

**Findings**

**Characterization of Interview Participants**

I conducted nine interviews, and spoke with ten library/archives/museum professionals. Three interviewees worked in historical libraries that had special collections and/or archives; three worked in government archives; two worked in academic university archives and special collections, and two worked in history museums that collect and maintain historical special collections materials. I assigned a unique pseudonym to each interviewee in order to identify their responses consistently throughout the paper. For ease of reference, each pseudonym begins with a letter signifying the type of institution at which the interviewee worked—in most cases, the institution type also corresponds to the interviewee's work and educational background. A# denotes employees of archives (academic or government), L# denotes employees of libraries with special collections/archives, and M# denotes employees of museums. Information on the interviewee’s education and work experience is recorded in the “Background” column of Table 1. This information was self-reported but not expressly solicited and therefore may be incomplete. In some cases, I made the self-reported backgrounds less specific in order to protect interviewee identities. I chose to collect this background information in order to help assess whether perceptions of intrinsic value and digitization for preservation were affected by the type of background. According to my assessment, this group did not seem to express significant differences of opinion based on background.
Table 1

*Interviewees’ Backgrounds and Institutions*

<table>
<thead>
<tr>
<th>Pseudonym</th>
<th>Background</th>
<th>Institution Type</th>
<th>Years Digitizing</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>Librarianship</td>
<td>Historical library with special collections/archives</td>
<td>7</td>
</tr>
<tr>
<td>A1</td>
<td>Archives experience</td>
<td>Government archives</td>
<td>10</td>
</tr>
<tr>
<td>A2</td>
<td>Archives, digitization</td>
<td>University archives &amp; special collections</td>
<td>7+</td>
</tr>
<tr>
<td>A3</td>
<td>Archives, curation</td>
<td>University archives &amp; special collections</td>
<td>1+</td>
</tr>
<tr>
<td>A4 and A5</td>
<td>Archives experience</td>
<td>Government archives</td>
<td>n/a</td>
</tr>
<tr>
<td>M1</td>
<td>IT</td>
<td>Museum of history with special collections</td>
<td>n/a</td>
</tr>
<tr>
<td>L2</td>
<td>Librarianship</td>
<td>Historical library with special collections/archives</td>
<td>9+</td>
</tr>
<tr>
<td>L3</td>
<td>Librarianship (bibliography)</td>
<td>Historical library with special collections/archives</td>
<td>5+</td>
</tr>
<tr>
<td>M2</td>
<td>Social Sciences, with archives experience</td>
<td>Museum of history with special collections</td>
<td>2+</td>
</tr>
</tbody>
</table>

*Note:* The “Years Digitizing” column reports the number of years that the interviewee’s organization has been digitizing items, as reported by the interviewee.

**Professionals’ Views of Intrinsic Value**

Before interviewees were provided with the NARA definition of intrinsic value, most of them had their own loose definitions of the concept, though many admitted that it was a difficult thing for them to define. Both in their initial definitions and throughout the questioning process, interviewees pulled other types of value into their descriptions of intrinsic value and their discussions of digitization and preservation. In general, they defined intrinsic value as an item’s significance in terms of other values. Those values that mapped to one or more of the nine qualities in the NARA definition included uniqueness, evidentiary value, and display value. Values mentioned which have less well-drawn links to the NARA definition included: research value (which could map to
any number of NARA qualities or none at all, depending on the research), informational value (which is meant to be independent of intrinsic value, according to the SAA definition and to the impression given by the NARA document), social/historical/cultural value (this could loosely map to the NARA definition, but could also include the informational value of the document), and occasionally monetary value (this could possibly relate to age or unique features, but not necessarily). Three of the professionals also noted that intrinsic value meant that the item’s value in the physical form or “in and of itself” (A2, A3) warranted preservation of the original. Professionals’ definitions of intrinsic value did not differ significantly based on their institution type.

Reading NARA’s definition of intrinsic value (Appendix B) did not seem to change the professionals’ minds about intrinsic value. Four of them recalled reading this definition in the past. Nobody reacted negatively to the definition; reactions generally ranged from hearty agreement with the qualities it listed to an interest in applying those qualities to their collections. Archivist 2, who had been unfamiliar with the definition, initially thought it was more applicable to governmental collections than to collections of institutions like his, and that it would also be more useful for “pre-modern collections that are like archival eye candy” rather than the more modern collections that he works with. However, all of the professionals were able to see examples of NARA’s intrinsic value within their own collections. The definition and the nine qualities from NARA seemed to help them express valuable aspects of their own collections, both by giving them language to use and by triggering thoughts of example items within their own collections.
A three of the interviewees made reference to other aspects of intrinsic value which fell outside the NARA definition (and the SAA definition, as well). Librarian 1 suggested (but did not explicitly state) that the value of use is also important to her interpretation of intrinsic value, which is very much outside of NARA’s definition. All interviewees discussed use in some form, though none saw use as a direct characteristic of intrinsic value—see below for further discussions of use and user needs.

**Situations where intrinsic value might not apply.**

Though newspaper digitization was not an intended discussion point of this study, four interviewees’ responses suggest that newsprint typically falls outside the domain of intrinsic value. Both Librarian 1 and Librarian 3 said that their institutions dispose of original copies of newspapers or clippings; Librarian 1’s institution will photocopy or scan them and she considers this a preservation measure, while Librarian 3’s institution will most likely photocopy newsprint items due to their general opinion that digital is not a preservation format. Considering the rapid aging of newsprint and the low possibilities that it will possess any of NARA’s nine qualities of intrinsic value, the NARA definition does not demand that these original newspapers be retained. The relationship between this lack of intrinsic value and digitization for preservation is not firm, since there seems to be a stronger tendency (among this group) to photocopy than to digitize newsprint.

The definition of intrinsic value was created to help institutions face “the challenge of distinguishing between records that need not be retained in their original form after an acceptable copy has been created and those that require preservation in the original” (Staff Information Paper, 1999). According to the results of this study, applying intrinsic value to the reappraisal of newsprint would result in the same choices that
archival professionals seem to be making. However, despite the fact that NARS’s Committee on Intrinsic Value created this definition and set of qualities to “be useful for decisions relating to all physical types of records and manuscripts” (Staff Information Paper, 1999), the qualities and their recommendation to preserve items with intrinsic value in their original form becomes a bit strained when applied to A/V materials. Audio/visual materials present another case in which originals are most frequently disposed of rather than retained following reformatting. Archivists 4 and 5 stated that A/V materials may be destroyed after they are digitized, and most likely will be destroyed if they are becoming unplayable. Their institution is currently grappling with “the idea that, once they’re migrated, the new version [of the A/V materials] will be the official record, that what they were originally created on will no longer be the official record but we will keep it because of its intrinsic value or as a safeguard” (A5). The intrinsic value that A4 and A5 discuss in terms of some of the A/V materials of which the originals would be kept involves NARA quality #7, namely an association with/evidence of historically significant events.

M2 works exclusively with A/V materials, specifically oral histories. In his opinion, the NARA definition of intrinsic value (and its preservation recommendation) cannot be as easily applied to A/V materials as it is to paper materials. A/V archivists at his institution are concerned with the signal on the tape rather than the item itself, due to the tapes not being suitable as long-term preservation formats. He sees the rescuing of the signal and its transference into a digital format to be “better for both long-term preservation and access.” He saw the preservation of tapes as historical artifacts to be a different (and perhaps, a less important) issue. Looking over NARA’s list of qualities,
M2 had to stretch #2, 3, and 4 to make them fit his materials. He thought that #5, 6, and 7 applied to his materials, but he didn’t see those qualities as limited by the physical form (that’s not the way his institution uses them). He did not think that #8 and #9 applied to his materials. However, even he does not dispose of originals immediately: “We’re not disposing of the tapes after we digitize, we’re still maintaining the best environmental conditions, but eventually, it could be 10 years, it could be 20 years, the tapes themselves won’t be playable.”

**Assessment of intrinsic value.**

I asked interviewees about their assessment of intrinsic value. Since intrinsic value was created with an eye toward its use in appraisal, I hoped to determine whether intrinsic value was explicitly assessed, and at what level. As expected, none of the interviewees specifically consider the whole concept of intrinsic value when appraising items, though they do consider its components. No one presented a specific system of assigning weights or levels of importance to the different components of intrinsic value, since most of them had a fairly fluid definition of the concept. However, many noted that the components of intrinsic value (either their own self-defined components or NARA’s nine qualities) did not all have to be present for their organization to want to collect, preserve, or digitize the item. Something could be accessioned due to special age or rarity alone, for example. However, four of the professionals mentioned that an item still had to fit within their institution’s mission in order to be collected. The level of arrangement at which intrinsic value is assessed also varies widely—one archivist said that her institution assesses those qualities at the collection level, and another said that she thinks modern assessments of intrinsic value are usually done at the item level. A
variety of factors might be influencing this difference, such as the uniqueness of items within a collection, or the time at which intrinsic value is assessed. It is interesting to note that the interviewees’ responses did not reflect the NARA “Staff Information Paper” (1999) recommendation to assess intrinsic value at the series level.

**Intrinsic Value and Digitization for Preservation**

**Potential transference of intrinsic value from original to digital.**

Many interviewees either disagreed with the idea that intrinsic value cannot be transferred to the digital copy, or thought that the question was somewhat moot because the digital copy would suffice for most use purposes. Though this response does not reflect NARA’s definition of intrinsic value, it highlights a more multi-valued approach to the documents—if people can access the document in some form and can get what they need out of it, perhaps that is what is most important; A3 agrees that the digital will most likely be sufficient. These opinions reflect Paul Conway’s assertion (2010a) that preservation (even digitization for preservation) ought to be based on use of an item rather than just its intrinsic value. A1 did not think that the inability to transfer IV to the digital copy deters archivists from digitizing or users from wanting to use digital copies: “I think they see enough intrinsic value in the digital image” and that the things one can gain from a digital copy as opposed to the physical original outweigh that which is lost in the digitization process. M1 also thinks that the transfer (or lack of transfer) of intrinsic value depends on what one is using that digital copy for or what one is looking at; if someone is interested in this certain facet of the subject, “then maybe the intrinsic value is really the content of what’s written” and what you can discern from that. This also highlights an expanded definition of intrinsic value that includes research value.
Everyone agreed that some qualities of intrinsic value can be transferred from the physical item to a digital surrogate. However, the group did not offer consistent answers when asked to specify which qualities they thought would transfer. A4 thinks that digitization would preserve some qualities of intrinsic value (including NARA qualities 2 and 3), but L3 singles out different qualities that would be captured by the digital copy: 5, 7, 8, and 9. The rest of the interviewees said that the digital copy would probably capture most qualities, but did not specify which. Still, two interviewees told me they were somewhat torn over the question of whether or not intrinsic value would transfer, despite the ability of the digital image to capture qualities of the original. L2 expressed these feelings fairly succinctly: “I think you can capture most of these issues [referring to the NARA qualities of intrinsic value] in a digital copy, but it still isn’t the original artifact…there’s some bottom line when it still isn’t the original.”

M2, the A/V professional, presents a different perspective. Since his views of the nine NARA qualities are different from what was perhaps intended by their creators, and since he does not believe that most of them are tied to the physical A/V format, he does not think that the digital copy lacks much that the physical copy had.

**Loss of value.**

While acknowledging that digital surrogates can capture some or most of an item’s qualities of intrinsic value, four archivists discussed physical aspects of items in their collections that digitization for preservation cannot duplicate in a digital surrogate. These include paper quality, chain lines, binding/spines, and watermarks. L3 asserted the importance of the artifactual value of items in his collections as a part of their overall
intrinsic value, and stated, “There are kinds of research that cannot be accomplished through access to a high resolution digital surrogate.”

Additionally, many archivists pointed out less concrete aspects that cannot be preserved during the transition from the original physical copy to a digital copy. Six interviewees explained that a personal connection to a document would only be available through the physical original item: “I think any genealogist will tell you that the thrill of holding the original marriage license of their ancestor, there’s nothing that can compare to it” (A1). Other archivists used the example of documents handled by America’s founding fathers or drawing created by famous architects to illustrate a “brush with excellence” (A2) feeling that would not be reproduced by a digital surrogate. Interviewees expressed what would be lost using words including “physicality” (most interviewees), “three-dimensionality” (L2), and the “romance” of the original (A2), while acknowledging that the information would still probably be preserved by the digital surrogate. Others felt that the surety of seeing and feeling a document in front of you is always missing from digital copies, and that the experiences of all of the senses (with the exception of sight) cannot be duplicated in a digital environment. Echoing an area of concern highlighted by Sassoon (1998) and Hedstrom & Lee (2002), L3 also pointed out that context which exists in the physical collection may be difficult to preserve in the digital surrogate collection. This would be especially true if only pieces of a collection were digitized, rather than the whole thing.

Overall, the interviewees descriptions of what is lost during digitization seem to uphold the assertion made in NARA’s “Staff Information Paper” (1999) to preserve the originals in order to retain that intrinsic value. At this point, it seems that technology has
advanced enough to reliably transfer informational content from a physical item to a
digital surrogate, but some of the qualities of intrinsic value (whether they be some of
NARA’s nine qualities or things not captured in NARA’s definition) are not perceived to
be transferrable.

**Digitization as a preservation format.**

When asked about why they digitize, most of the interviewees indicated that their
main goal is usually access rather than preservation. A4 explained how her institution
weighs the purposes of digitization: “if you had to rank what is the coolest thing about
[-digitization, it would be] access first and preservation is a wonderful ‘nother reason to
do it, but it flips when [the item is] intrinsically valuable, [then] the main thing is
preservation.” In general, interviewees thought that creating a digital surrogate was a
preservation measure, but not necessarily a proper preservation format. Thus, the
originals must be retained. However, for one archival institution which must digitize
government records and get rid of the originals to save space, the archivist says she
microfilms the digital images “just to be on the safe side. But we know the day is going
to come when we’ll have to preserve those digital images, and they will be the
preservation master, but we’re not creating them for preservation purposes.” The A/V
professional again finds himself in a different situation from those who work with paper
and photograph collections. His institution digitizes for both preservation and access; he
presented them as fairly equal, noting that they digitize for both “long-term preservation
and enhanced access, and one doesn’t always mean the other… so we’re trying to find the
best way to do both.”
Generally, digitization is considered by the interviewees to be a preservation measure because it reduces handling, especially of high-use collections which are being “loved to death” (A1). On the other hand, three interviewees indicated that digitization has actually increased requests and handling for some of their collections, which somewhat negates the assertions in archival and library literature that digital surrogates are acceptable preservation measures to reduce wear and tear of delicate items (Nichols & Smith, 2000 and others). Only one institution does not allow patrons to access the original item once a digital copy is made.

L3 offered the best explanations (and most adamant argument) for the rejection of any digital format as a preservation format. He explained that studies have shown that a good preservation environment/benign neglect can preserve paper and microfilm for a long time, but aging studies have shown items like CD-ROM to be short-term: “Digital resources require constant care and feeding.” This echoes the argument against digitization for preservation put forth by Nichols & Smith (2000). L3 also thinks that failures to adequately address backup and other preservation measures for digital objects may bring authenticity into question. Interestingly, loss of or indeterminate authenticity was only mentioned as a concern by three interviewees, and it was not emphasized as the main concern. The difficulty of ensuring an item’s survival in digital form is what makes digital formats “still scary” (L2) for some library and archives professionals.

One of the questions this research meant to address was whether digitization could function as a preservation format for especially fragile items. Presented with the hypothetical situation of Thomas Jefferson’s fragile and deteriorating scrapbook, A2 summed up the thoughts of most of the other interviewees: “This thing will be beautiful
to look at, even if it’s in shambles, because it will be like, ‘cool, Thomas Jefferson!’ but … if you can reproduce the content, an image of the content, it’s still a pretty good stand-in.” Other interviewees agreed that deteriorating items should be digitized for preservation, though the continuing advances of technology are a great argument for keeping the originals. L2 also mentions saving deteriorating acetate negatives through digitization, much like Capell (2010). The overall impression that I received was that digitization could function as a preservation measure in last-ditch-effort scenarios, but that some organizations would prefer to microfilm because digital formats have not yet reached the point where they can be relied upon for long-term survival.

If applied to archivists’ use of the concept of intrinsic value, we see that none of the interviewees’ ideas about intrinsic value changed much when asked about fragile materials. They seem to be willing to make a preservation master of fragile items, though the digital surrogate would not be able to express all aspects of intrinsic value that the original possessed. Aside from possibly making a higher quality scan, the interviewees generally would not take any special measures to translate aspects of intrinsic value to the digital surrogate. However, when I asked if there was anything that archivists could do (in addition to making high quality scans) in order to capture in the digital format as much of the intrinsic value as possible for future users, several interviewees shared ideas. While five archivists acknowledged that descriptive metadata could be included with a digital surrogate to capture some of NARA’s nine qualities of intrinsic value, or even unlisted qualities like the context of an item or the way something smells, they acknowledged that this might be impractical with large numbers of items, such as when digitizing entire collections.
Obstacles.

Interviewees also touched on obstacles to digitization for preservation. Intrinsic value itself presented few obstacles to digitization for preservation, other than the obstacle of incomplete transference of intrinsic value discussed above. While this may hinder efforts to digitize for preservation, it does not stand in the way of digitization for access purposes. In terms of the physical qualities of an item that might give it intrinsic value, some items’ formats do not lend themselves well to digitization for preservation. One interviewee mentioned the digitization of a scrapbook that had overlapping items on its pages. The digital images only captured the first layer of newspaper clippings etc. on each page; whoever carried out the project chose not to perform further scans to expose the content that was covered up. Additionally, some items are too fragile to digitize due to their age or unique physical format. Interviewees who mentioned this seemed to think that the handling and flattening, rather than the exposure to light, would damage their fragile materials. L2 gave an example of how patrons are harnessing digitization technology on their own in an (unintentional) effort to combat digitization-related damage: “more and more people are bringing their digital cameras, making copies of things, so that’s actually a big help in being non-damaging to most materials, because you don’t have to turn things over onto a photocopier [or flatbed scanner, and] they can just shoot it as it sits on the table.”

Another obstacle to digitizing items with intrinsic value involves the interplay of one’s institutional mission and the availability of funding. One of the archivists working at an academic institution pointed out that “we have [digitized] some things that would seem to have more intrinsic value rather than research value, but I feel like a lot of the
things we do now, we have to justify with a use case, and the use case is less intrinsic value rather than demand or supporting research.” Though research value and intrinsic value are not mutually exclusive, the economy frequently forces institutions to be more choosy about what they digitize, and materials that are likely to be highly used in their digital format will most likely be digitized before (or instead of) items that are less well used.

There are numerous other obstacles to digitization for preservation to add to those related to intrinsic value. Most of these issues reflect problems that are not new to the field. Interviewees mentioned that money problems, in the form of paying for staff, processing, digitization, and storage, can hinder digitization efforts. Server space, lack of appropriate equipment, database difficulties, and web presentation capabilities were also mentioned as things that can prevent digitization from occurring or appearing to the public. Constantly advancing technology was also mentioned by half of the interviewees; obsolescence and questions about the support for new and older formats causes some archivists not to digitize, while others just try to do their best and migrate forward.

**Added value of digitization.**

Digital copies of physical items, whether they are made for preservation or not, afford a number of additional options for use and preservation. Interviewees noted a variety of ways in which the look or use of an item could be improved upon with a digital copy: one librarian noted that digital images can provide higher visual quality than microfilm copies made of originals (L1), and can make materials easier to see in other ways: digitization can make pencil writing appear more clearly (A1) and it is useful for slides (small things one might want to make larger (L2). Digitization “enables a different
“kind of looking” (A2) in that it allows you to zoom in and examine pen strokes and grain of paper in ways you cannot with just two hands and the piece of paper. The overall usefulness of the digital object is increased. A1 mentioned genealogists using printouts creatively in scrapbooks: “you can do so much with a digital image. You know, in the past, you might could hold that document, get your little thrill, and then you ask for a Xerox copy, you take it home, and you put it in a notebook, that’s about all you could do.” Interestingly, nobody mentioned digitization as affording users the ability to compare individual items side by side which in the physical world exist at separate institutions. However, Librarian 3 thought one of the greatest advantages of digitization lie in its potential to offer large scale datasets (once enough items are digitized) that could afford research opportunities that we cannot yet imagine.

In terms of access, digitization gets the word out, introducing potential users to things they did not know existed (A4). Additionally, one advantage of digitized copies, in terms of access, is that it cuts down on people having to travel to an institution; realistically, not many people would have the chance to see that object if it were only in physical form (A1, M1). Archivist 1 mentioned another bonus of the lack of travel required by digital copies: volunteers across the US are helping to index a collection that she knows about, because the choice was made to digitize rather than to microfilm that collection.

In terms of preservation of the originals and their value (be it intrinsic or not), Librarian 1 thought that one value of digitization was that it puts copies of a document “out and about” on the Internet, and those copies would continue to be available in
cyberspace or saved onto users’ computers even if a physical catastrophe ruined the original.

Contrary to Sassoon’s idea that enhanced metadata could preserve some of the meaning and materiality of digitized photographs, interviewees did not emphasize metadata as one of the added values of digitized copies. Though some interviewees agreed that metadata could provide valuable information that would help it retain some of its intrinsic value (anything from the size of the scanned page to what it smelled like), one interviewee thought that the kind of extra metadata that would really make this an added value would be too time consuming for large collections (but possibly viable for select items).

Overall, the added value of digitization seems to fall outside the realm of preserving qualities of intrinsic value, but these results might provide further elements of consideration when digitizing an item for preservation and use.

**Digitization standards and best practices.**

As expected, this study did not reveal any standards that professionals felt helped guide them in preserving as much intrinsic value as possible when digitizing items. Interviewees, though mostly familiar with NARA’s definition of intrinsic value, did not give any indication that they purposefully use its nine qualities as guidelines in their work. Most interviewees who discussed standards at all told me that they save their digital images as uncompressed TIFFs—one expressed the reluctance of himself and his coworkers to move to JP2 at this time. However, the access copies put online are usually JPEG or JPEG 2000. Some of the archivists and librarians explained that their digitization specifications as far as resolution and file formats correspond to
recommendations of a larger organization’s accepted standard, but most could not or did not name the institution or body that put forth this standard, though two pointed to NARA employees or recommendations. One interviewee mentioned that his institution has guidelines and best practices for digitization that it follows and shares with its partners, though we did not discuss whether these standards were entirely home-grown or whether they were modifications of something that was adapted from another institution.

There were differences among interviewees as to whether their institutions used minimum quality scan standards or highest quality scan standards, and these variations did not seem to occur based on type of institution. Six interviewees told me that their institution digitizes different types of items to different degrees of quality. One reason for this seemed to be the differences between physical formats—for example, a modern government record on 8.5 x 11 inch paper would not require as high-quality a scan as pages of an old diary. The other major factor that was cited as influencing the level of digitization was the perceived value of an item; value in this situation seemed to refer to a perceived intersection of intrinsic and research values, rather than intrinsic value or research value alone. One interviewee mentioned digitizing in a way that would best capture the complete appearance of the original, rather than just scanning for the textual information on a page and cropping the edges. In her opinion, higher quality scans would better preserve the “physicality” of items, and “if you’re just capturing what the scanner thinks is most important…you may miss something.”

Taken together, these professionals’ use of standards in their digitization efforts seem to show a desire to control their own institutions’ digitization processes using parameters established within the field. However, in certain areas this becomes an
obstacle. M2 is very aware of the short lifespan of many digital formats, and explained that for A/V materials, “there are not necessarily definitive standards out there… It’s a real concern, but you have to do your best.”

**Users**

Interviewees generally expressed that users would be satisfied with the digital surrogate in most cases. Some thought that satisfaction would depend on the quality of the scan, while others think it is the general usability of the digital copy that will satisfy users. The A/V archivist thinks that the digital surrogates are always satisfactory to his collection’s users, since the value that they want to get out of the tape is not linked to its (potentially obsolete) physical form. A1 explained that younger generations of researchers are so accustomed to looking for information on the internet that the digital versions will be satisfactory. A2 wonders “if people are satisfied with reproductions in general… [since] that’s what we get access to. Most people know Guernica from the poster rather than [the original]…maybe we’re just kind of used to reproductions.” This comment reflects Sassoon’s idea (1998) that people are becoming more accustomed to digital items, and that library and archival institutions may need to follow the needs of their users to some extent.

Three interviewees explained that they do not think average users will notice or be affected by the fact that the intrinsic value of the original was not transferred to the digital copy. In fact, many interviewees reported users coming to the reading room and making their own digital images with their cameras. This might suggest that users truly do not need to see the physical object in most cases, and that their digital image is all they need. Alternatively, it could suggest that users wanted to actually inspect the original for
something that involved aspects of its intrinsic value before taking a digital photo to preserve the rest of the informational content for later use. Without a user study, we cannot know, which is why one interviewee mentioned that she would like to see user studies addressing this topic. Again, though, if a user has a personal connection to a document, it is expected that they will not be satisfied without the original. This expectation, held by most of the interviewees, does not completely match with the results reposted in Paul Conway’s study of users of digital images (2010b), in which some users did have an emotional connection with the digital images. More user studies would be useful to explore the formation of emotional connections with the physical versus the digital surrogate item.

**Discussion**

The archivists and librarians interviewed for this study pull many different types of value into their definitions of intrinsic value, and one of the most emphasized of these was research value. Their judgments of intrinsic value seem to be somewhat subjective, even in light of their personal loose definitions of the concept; this corresponds to the acknowledgement in the “Staff Information Paper” (1999) that intrinsic value is always subjective in its application. The variety of language used to express aspects of intrinsic value (e.g., “the romance” and “three-dimensionality”), as well as the subtly different ways that each interviewee defined intrinsic value, might mean that archivists’ and librarians’ understanding of intrinsic value has not solidified since McRanor’s assertion in 1996 that the vocabulary around this topic varies widely. The NARA definition of intrinsic value seems to lose some ground because it is less applicable to newspaper and
A/V materials than it is to more traditional types of archival items, though this decreased applicability occurs for different reasons.

Overall, interviewees’ responses suggest that digitization can function as a preservation measure in extreme circumstances, but that digital surrogate formats are not yet stable enough to be considered preservation formats (outside of the A/V realm). When compared to the adamant arguments against digitization for preservation made by Westney (2007), it seems as if digitization techniques and formats have not evolved enough (or perhaps, have evolved too quickly) in the past four years; their potential as preservation formats at some later date is still in question. L3 summed up this “wait and see” feeling by acknowledging that, regarding digitization as preservation, we have “no definitive answers to these questions yet and it may actually take a couple of generations before we figure it out.”

**Importance and Practical Value of the Research**

I intended to use the results of this study to question whether or not the definition of intrinsic value, as presented by NARA, needed to be updated so that it might take into consideration what archivists and users think can actually be transferred from an original physical item to a digital surrogate. Since the results of this study cannot be generalized to the entire population of archivists and librarians, it is impossible to say with any certainty whether or not a modified definition would be useful at this time, when digitization is still an uncertain format. However, I hope that this study of the importance of intrinsic value, and its loss in digitization projects, will lead to a better understanding of value (especially intrinsic) in our historical and cultural archives and a well-informed effort to protect the holistic value of archives in today’s society. I offer this research to
generate discussion within the profession, and to help archivists and special collections librarians understand the concept of intrinsic value in terms of its component parts in a way that might allow them to factor those components into their digitization projects. These professionals might then be better equipped to choose which items would be good candidates for digitization, and what elements they might try to preserve in the digital copies, rather than digitizing everything and hoping for the best. These findings could also open the door to further conversations about value and its preservation.

This research may also guide digital technology producers to create products that will be useful to libraries and archival institutions, as well as other cultural heritage institutions. Digitization is improving constantly—interviewees were well aware that facets of value that previous digitization technology could not capture may one day be retained in digital images, as technology progresses.

This study might be especially useful to cultural heritage preservation in countries where physical items of culture are at risk of destruction. In countries like Afghanistan and Iraq, internal conflicts may result in opposing factions destroying each other’s cultural artifacts, or national instability may contribute to black market trade of these items. A better understanding of what components make cultural items valuable, along with a good set of standards about digitization of these types of items, could result in functional digitized items that retain most of their original value. If the originals are destroyed, the digital copy will be better able to represent its predecessor to posterity.
Bibliography


Appendix A: Interview Guide/Schedule

- Can you tell me a bit about your collection(s)/the last [notable] collection you worked on?

[Note: it might be useful to get information about the physical state of these collections, and the preservation measures/conservation currently undertaken.]

- What does the term “intrinsic value” mean to you? How would you define “intrinsic value”?

[After this question, the researcher will present the NARA definition of intrinsic value as a basis for the rest of the interview. See Appendix B.]

- Do you consider any of the collections/items you work with to have substantial intrinsic value?
  - (If yes) Can you explain the intrinsic value of that collection/item? At what level (series, collection, item) do you usually assess intrinsic value?
  - (If no) Why not? At what level (series, collection, item) do you usually assess intrinsic value?

- How long has your institution been digitizing materials?

- Why do you digitize materials? (To provide access to them? To make preservation copies?)

- Do you think that digitization can/should be used as a preservation measure?
  - Would rarity, fragility, or potential imminent destruction/deterioration of the original make digitization for preservation a valid measure?

- How do you decide whether or not an item should be digitized?

- What (if anything) do you think the digital copies lack? / What type(s) of value are being sacrificed?
  - (If participant mentions loss of value) How do you think archivists can address this?

- Have you ever digitized an item/collection that had significant intrinsic value?
  - (If yes) Why? What (if anything) do you think the digital copies lack?

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3 Some of these questions were informed by the interview protocol of Donald Chalfant (2003), whose thesis also provided helpful guidance and direction for other parts of this work.
(If no) Why not? Would you digitize an item/collection that had significant intrinsic value?

- Does the potential loss of intrinsic value from inability to transfer intrinsic value to a digital copy affect your decisions about digitization?
- Do you think that your collections’ users need to see the original physical copies?
- Do you think that users would notice that digitized copies lack the intrinsic value of the original?
Appendix B: NARA Definition of Intrinsic Value

“Intrinsic value is the archival term that is applied to permanently valuable records that have qualities and characteristics that make the records in their original physical form the only archivally acceptable form for preservation. Although all records in their original physical form have qualities and characteristics that would not be preserved in copies, records with intrinsic value have them to such a significant degree that the originals must be saved.”

The nine qualities or characteristics of records with intrinsic value are:

1. physical form that may be the subject for study if the records provide meaningful documentation or significant examples of the form;
2. aesthetic or artistic quality;
3. unique or curious physical features;
4. age that provides a quality of uniqueness;
5. value for use in exhibits;
6. questionable authenticity, date, author, or other characteristics that are significant and ascertainable by physical examination;
7. general and substantial public interest because of direct association with famous or historically significant people, places, things, issues, or events;
8. significance as documentation of the establishment or continuing legal basis of an agency or institution;
9. significance as documentation of the formulation of policy at the highest executive levels when the policy has significance and broad effect throughout or beyond the agency or institution.

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