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This paper briefly considers the evolving conceptions of Archival Value, Records and Preservation as discussed in archival literature and their connections to materiality in archival records. Archival preservation theory has not developed in conjunction with appraisal theory, so many routine archival practices appear to ignore the relationship between materiality and archival value, and may even obstruct, diminish or destroy the characteristics meant to define archival value today. Conservators working in archives can draw on their professional knowledge to help make connections between the significant characteristics shared by both analogue and digital records, and to work with archivists to preserve these characteristics for the future.

Cet article examine l'évolution des changements des concepts de Valeur Archivistique, Documents d'Archives et Conservation tels que discutés dans la littérature, ainsi que leurs liens avec la matérialité des documents d'archives. La théorie de la conservation des documents d'archives ne s'est pas développée au même rythme que la théorie d'évaluation, si bien que les pratiques archivistiques courantes semblent ignorer la relation entre la matérialité et la valeur archivistique et peut même empêcher, diminuer ou détruire les caractéristiques destinées à définir leur valeur archivistique. Les restaurateurs travaillant dans le domaine des archives peuvent utiliser leurs connaissances pour contribuer à la création de liens entre les propriétés fondamentales partagées par les documents analogiques et numériques. Ils peuvent travailler en collaboration avec les archivistes pour préserver ces caractéristiques pour la postérité.

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Introduction

When I started working as a conservator in the world of archives, I was delighted with the range of records and stories. But I was surprised at the rarity of discussion with or among my archivist colleagues about records as material things, and by the hierarchies implied by the relatively greater time and resources given to "documentary art" versus that given to textual records in processing, description and preservation. I wondered why. If all archival holdings are acquired because of their archival value, why should their media matter so much? How and why was the meaning and scope of "records" and of "preservation" so variable among archivists? And so I slowly began trolling the archival literature for clues to these differences, and for like-minded archivists whose ideas I could tap into, in order to try to develop a more unified approach to preservation management. This paper briefly considers materiality in the context of Archival Value, Records and Preservation and their interconnections from the perspective of a conservator working in a large and quite decentralized archives, and concludes with some thoughts on invigorating archival preservation practice.[1]

Archival Value(s) in Records

The foundations of modern archival practice in the English-speaking world are rooted in the work of Sir Hilary Jenkinson and of T.R. Schellenberg. In *A Manual of Archive Administration*, first published in 1922, Jenkinson suggested that records become "archives" after they cease to fulfill their business purposes for their creator and are sent to archival repositories because of their enduring value as evidence.[2] Jenkinson claimed that the archivist's most important duty is to safeguard the essential qualities of records to prevent "diminution in their evidential value."[3] For the most part, archivists during this period accepted whatever records were transferred to them.

In the 1930s to 1950s, in response to the masses of government records created in the wake of the Depression and the Second World War, T. R. Schellenberg codified new approaches for managing records at the National Archives and Records Service (NARS) in Washington in several books, including *Modern Archives: Principles and Techniques*.[4] Schellenberg asserted that archival records are those that have secondary value – that is, longer lasting research value beyond their primary business value for their creators. Within such secondary values, archival records may have evidential value (regarding the actions taken by their creator), and informational value (regarding the people, places, and activities which appear in the records), or both. These became, and in many archives continue to be, the dominant criteria in appraising archival value, that is, in identifying the roughly 3–5%[5] of records which have enough value to be acquired.

In his chapter on "Preservation Practices," Schellenberg noted that modern archivists "must employ methods that will preserve, either in their original or some other form, the materials that are inherently perishable."[6] Since the archival value of a record may endure longer than the format life (or the useful life) of its material composition, it follows that the life of some aspects of the record can be extended though reproduction as part of another artifact, or "re-formatting."[7] Thus "information" in the archival sense can be reduced to only those aspects of records which can be represented on another medium or substrate.[8] This separation has justified the destruction of re-formatted source records on the basis that they are redundant because their archival (information) value has been transferred to a more permanent medium.

Schellenberg also suggested that some records may "have intrinsic values that justify their preservation in their original form,"[9] but he provided no guidance for assessment of intrinsic value (sometimes called artifactual value). In 1982, a NARS committee developed a list of nine "Qualities and Characteristics of Records With Intrinsic Value" to identify records to be retained in their original forms:

1. Physical form that may be the subject for study…
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 characteristic…
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…[10]

Brief descriptions to guide the intended interpretation of each criterion are provided, but critical qualifiers such as "aesthetic," "curious" or "questionable" are not defined, no methodology to quantify or contextualize these concepts is suggested, nor is there an explanation of why any record could not meet a criterion such as "value for use in exhibits."[11] The assumption appears to be that records with intrinsic value would only be considered by researchers as isolated technological artifacts (or groups of artifacts) rather than within the context of their creation and their use over time. Intrinsic value does not itself appear to be intrinsic[12] to the records, but to be externally constructed in relation to a narrow perception of potential uses.[13]

Several trends inspired major shifts in thinking about records and their appraisal in the 1980s and 1990s. The accumulating masses of records and the complexities of preserving records created with short-lived materials or retrieval technologies called for more efficient and effective appraisal and preservation strategies. Other factors in these shifts included a growing sense that archives should better reflect social history,[14] the development of specialized professional training programs and related literature, and increasing awareness of the potential implications of a postmodern cultural environment. Archivists such as David Bearman, and Canadians Hugh Taylor, Terry Cook, Joan Schwartz and Tom Nesmith encouraged their peers to apply historical research methodologies "not to the content of the records, but to the records themselves and to the evidential context which gave them birth."[15] In Germany, Hans Booms laid the groundwork for the Canadian development of macroappraisal theory and methodology.[16] Instead of relying on a personal sense of evidential or informational value, he called for archivists to analyze the value of the records based on their significance to society because:

> Records are the products of processes involving complex interactions between creators of records (structures, agencies, people), socio-historical trends and patterns (functions, activities, programmes), and clients/ customers/citizens. All these elements constitute the dynamic contextual milieu in which records are created. The purpose of appraisal is to secure an appropriate documentary reflection of this milieu. Records which provide the best – the richest, most focused – *evidence* of this milieu have archival value.[17]

In contrast to the limited scope of intrinsic value discussed earlier, this contextualist perspective is aligned with material culture theory, which assumes that "human-made objects reflect, consciously or unconsciously, directly or indirectly, the beliefs of the individuals who commissioned, fabricated, purchased, or used them and, by extension, the beliefs of the larger society to which these individuals belonged."[18] Conservation principles are also aligned with material culture theory. Conservators recognize that materiality of archival records is anchored in the social circumstances surrounding their physical creation and is manifest in at least two ways: the physical "background" upon which the written text or images appear, and the successive interactions between records and their multiple users across time. The materiality of records is, therefore, primary evidence of the societies which created, preserved and used them.

The components in a First World War soldier's military wallet, illustrated in **Figures 1** and **2** can serve as a small but complex example to consider these approaches to thinking about materiality and archival value. The wallet belonged to Arthur Rufus Morrison, who was on active duty with the Canadian Machine Gun Corps from April 1917 until his death on September 29, 1918 during the Battle of the Canal du Nord. The wallet contains a diary, pay book, photographs and mirror.

Applying the Schellenbergian criteria of informational, evidential or intrinsic value to the wallet and its contents highlights how this traditional archival appraisal approach excludes the role and value of materiality. The written content of Morrison's diary and pay book provide some information about, and evidence of, a particular soldier's experience of military operations during part of the First World War. Nevertheless, this content would have to be compared to that of other military diaries and pay books to judge their relative evidential and informational value, as the scope of the experiences he recorded may not provide sufficient information for military researchers to be considered to have archival value. Since the people represented in the photographs are not clearly identified, their informational and evidential value appears to be negligible. The mirror and the wallet itself, carrying neither text nor images, might be appraised as having no archival value at all. The wallet also seems to have limited intrinsic value according to the NARS criteria. The contents are typical of soldier's wallets, and many First World War soldier's diaries, pay books and photographs are found in archives around the world. The wallet and contents might have value for exhibition (but no more or less

value than any other archival record), and a researcher might be interested in wallets or mirrors or pay books or mass-produced bindings as physical forms (but no more or less than for any other records in the archives). Many archivists might therefore dispose of at least some of the components of the wallet with little hesitation.

If the scope of the appraisal of informational and evidential values were broadened beyond the subject and creator to their functional context, the role of the materiality of these items could be evaluated as a component of their archival value. While the materiality of Morrison's wallet may act to reinforce or undermine the information or evidence in the written text, it also contributes additional evidence or information about its own context of creation. The assembled components offer evidence of a First World War soldier's personal effects, of military recordkeeping, and of the personal photograph-collecting and diary-writing activities undertaken by Morrison. The size, shape, colour, etc. of the materials which make up these records, and the presence or absence of certain pages, smells and signs of wear, have been shaped by social and technological processes and interactions, and these records in turn shape the user's experience in handling them. These materials and technologies are both tangible evidence of the records' societal provenance and information about their societal context. Information about the wartime economy, technology and socio-cultural behaviour might be obtained from comparative analysis of the materials present and the creation technologies employed: for instance, the quality of paper available for pay books provides information about the military's cost/benefit choices regarding these records.

Figure 1. Wallet, opened to show how items fit inside. Archives of Manitoba, Norman Matheson fonds P4352, file 2.

Figure 2. Wallet and all its contents. Archives of Manitoba, Norman Matheson fonds P4352, file 2.

Archivists who take a more modern contextual approach are more likely to be open to broader approaches to defining records and appraising archival value. Conservators, with our knowledge of materiality and of how it arises from the functional context of creation, can help archivists recognize this contribution to archival value.

Record-ness and Digital Records

Analogue records originate and persist in a single physical form, and modifications to analogue records can be detected though examination of changes to the media such as a visible splice in an audio tape. Digital files can only manifest themselves as representations assembled through the encoded interactions of hardware, software and computer operating systems. A screen view or printout from a digital file will not show physical evidence of the changes that have been made to it, so it is critical to ensure and to maintain the authenticity and reliability of these records. The same binary code can represent a wide variety of records formats such as databases, architectural plans, films, photographs and personal correspondence. The steady advance of digital record-making and record-keeping has therefore accelerated the theoretical shift away from subject-based and media-based analyses to archival appraisal based on maintaining functional context.

To be relevant and effective in the postmodern and digital age, Terry Cook proposes that archivists must make a paradigm shift "away from viewing records as static physical objects, and toward understanding them as dynamic virtual

concepts."[19] The conception of a record, for instance, "changes from being a physical object to becoming a *conceptual data 'object,' controlled by metadata, that virtually combines content, context, and structure to provide evidence* of some creator activity or function."[20] The ideas indicated in italics are discussed below in relation to materiality in records. If Cook's reconceptualization of records is extended to consider all the ways in which records fulfill their functions as socially constructed communication agents, it should also include all the visual, tactile and other sensory clues embedded in the record. Therefore, a clear archival warrant exists for the preservation of all aspects of records which provide evidence of their functional context and of the dynamic ongoing changes which they have experienced over time. (This dovetails with conservators' obligation to preserve "the culturally significant qualities" of cultural property by respecting the "original intention, usage, history and evidence of provenance."[21]) If a record is understood not as a random and passive carrier of information but as material evidence of functional context, then a record is inherently a conceptual data object, whether virtual or material, digital or analogue.

A record differs from information, or data, because it is a *combination* of its content, context and structure. While this requirement was developed for identifying records in a digital context, it could also be used to assess the "record-ness" of analogue records both conceptually and in terms of their materiality. Physically manifested content in a letter would include all the material components present (e.g. paper, inks, fasteners). Physically manifested structure is the way these materials have been assembled (e.g. the printing of ink onto the paper). Physically manifested context is the functions and meanings which can be drawn from the physical condition and interrelationships of the physical content and structure (e.g. a pair of holes in the upper left-hand corner of a page may suggest that something had been stapled to it in the past). Because conservators necessarily work with tangible materials related to cultural expression and recognize that the material parts must be understood in relationship to the whole, they may take for granted that this is also readily apparent to archivists.

To ensure that intelligible and meaningful records can persist beyond the obsolescence of software and hardware, preservation strategies for digital records recognize that records require both data (the information or content) and metadata (documentation of the context and structure that makes the information meaningful). Without metadata, the data is without context and therefore incapable of providing reliable evidence of who created the records, when, where, how, in performing what functions or activities in connection with what other records, and so on. Conservators might categorize this separation of data and metadata as dissociation – an agent of deterioration. Conservators will also recognize the critical need for documentation to preserve context and meaning, and that this is especially critical with ephemeral cultural expression such as conceptual art, installations and time-based art.[22]

Metadata can be identified for any purpose, and different sets of metadata can be customized to serve different purposes. Where a high level of control is required, metadata sets will be standardized. The most common types of metadata for digital records are administrative, descriptive, preservation, technical and use.[23] Preservation metadata may include, for example, descriptions of the physical condition of the records, of "actions taken to preserve physical and digital versions of [digital] resources, e.g., data refreshing and migration," and of changes made during the preservation actions,[24] essentially a digital equivalent of standard conservation examination and documentation. While documentation of metadata related to content, context and structure is a standard part of digital preservation, there is less awareness among archivists that materiality in analogue records can correspond to digital metadata.

Figure 3 is a graphic representation of the physical interrelationships (context) between the components of the wallet, with the diary, pay book, photographs and mirror (content) located within the pockets of the wallet. The tangible items are data, and their mainly intangible interrelationships within the wallet are the metadata considered here. If some wallet components (data content), such as the mirror or the wallet itself, were not retained, or if the components were stored separately from one another, this metadata diagram could still show those structural interrelationships and mitigate the loss of the absent data. In the case of the pay book, loose notes on scraps of paper have been tucked inside, so the pay book location itself provides contextual metadata for those papers. This figure shows very high level representations, and higher levels of analysis could be applied to the structure and composition of each item in this assemblage.

A reference model for an Open Archival Information System (OAIS) has been developed for long term preservation of space data systems, and OAIS informs most current archival digital preservation practice.[25] (OAIS defines information to be "Any type of knowledge that can be exchanged."[26]) While most space data is digital, the model is also intended to include preservation of non-digital objects such as moon rocks.[27] In OAIS, a Data Object cannot stand alone, but must be combined with adequate Representation Information (metadata) to be a complete and meaningful Information Object.[28] The model further breaks down the potentially relevant kinds of metadata, including Structure Information, Semantic Information, Representation Networks, Content Information, Preservation Description Information and Descriptive Information.[29]

An important feature of the OAIS model is that the preserved units need to remain understandable to their "designated community" of users, so archives must have a clear understanding of the needs of its users and must define the significant properties of the records that need to be preserved.[30] Significant properties are "the characteristics of digital objects that must be preserved over time in order to ensure the continued accessibility, usability, and meaning of the objects, and their capacity to be accepted as evidence of what they purport to record."[31] The notion of significant

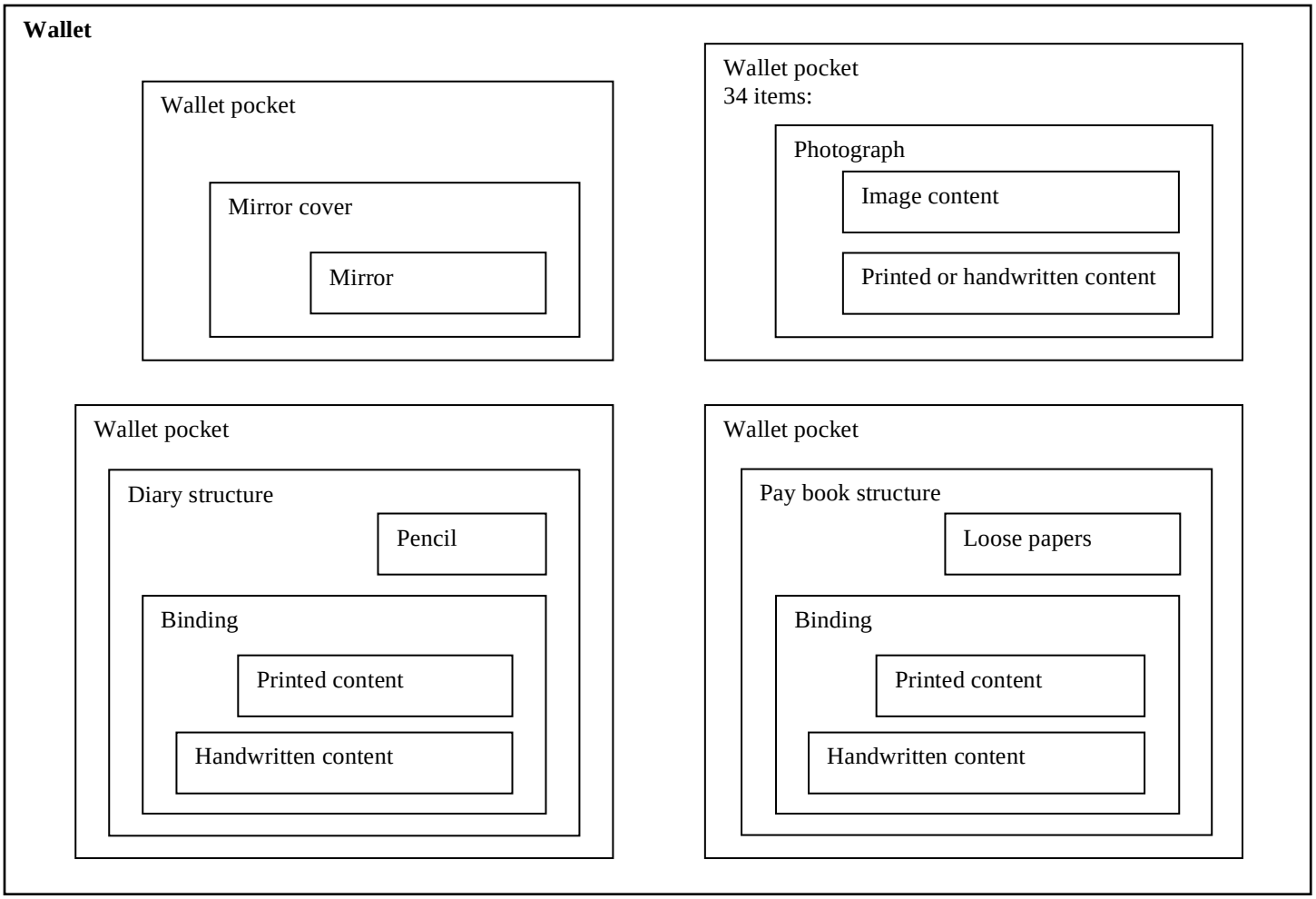
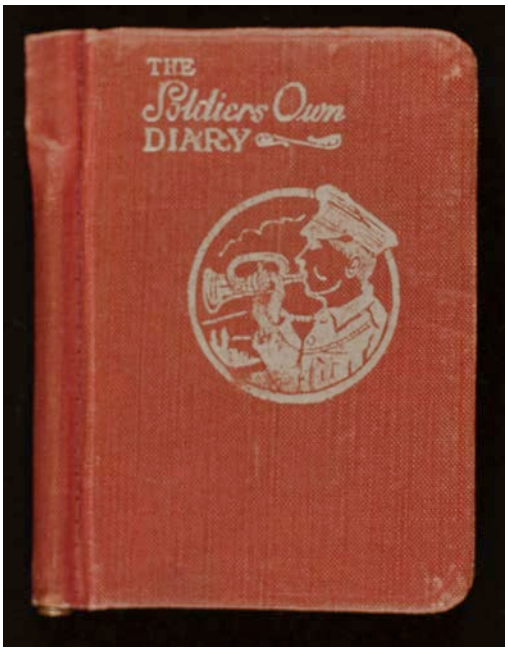


Figure 3. Structural Relationships within Wallet: structural metadata.

properties or characteristics in digital records obviously overlaps with the conservator's obligation to preserve "culturally significant qualities" and provides a common reference for building mutual understanding.

The exact definitions of significant properties or characteristics in digital records are relatively new and still evolving as research continues. Archivematica is an open-source OAIS compliant system commonly used in the archival community to ensure long-term accessibility to digital records.[32] It automatically identifies significant characteristics of ten types of digital objects (e.g. audio, email, plain text, websites),[33] and the page for each object type cites the guidance from key English language sources. The presentation type listed that is closest to the diary in Arthur Morrison's wallet is for word processing files since they are mainly formatted text. The page for word processing files indicates that the National Archives of Australia has proposed that "essential characteristics of a word processing document may include the textual content; formatting such as bolded text, font type and size; layout; bulleting; colour and embedded graphics."[34] **Table I** shows how this list of significant characteristics for word processing files could be adapted and applied to the diary.

This analysis may increase awareness that a transcription of the handwritten text is not sufficient for understanding it, that visual images of the pages will provide additional evidence, and that a scale ruler and colour checker will be important to include in any visual representation of the diary. But this list of characteristics was not developed for bound analogue records and is clearly limited. There is no place to describe the size, or the three dimensional construction of the binding (which integrates a sheath for the indelible pencil), or the physical components such as the bookcloth, textblock papers or edge colouring – likely because these are not present in in the same ways in digital records. An early paper on significant properties of digital objects – those that "affect their quality, functionality, and look-and-feel"[35] – looked to guidelines developed for digitization and reformatting projects, and to standards for legal admissibility, to develop an inventory of potentially significant properties. These included paper composition, typographical methods, binding techniques and annotations.[36]



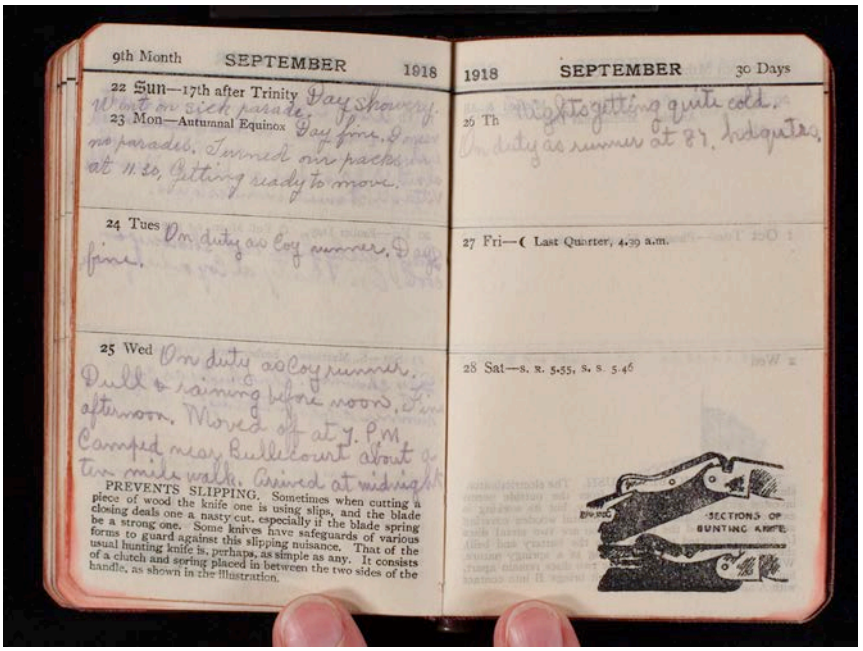


Figure 4. Arthur Morrison's diary, closed (left) and open to last entries (right). Archives of Manitoba, Norman Matheson fonds P4352, file 2.

Table I. Significant Characteristics of Morrison's Diary.

Characteristics	Analogue Adapted Characteristics	Diary Examples
Textual content	Machine printed and manuscript text and other marks	Black, red, yellow, green and blue machine printing inks. Manuscript entries in indelible pencil (**Figure 4 right**).
Formatting such as bolded text, font type and size	What content is machine printed or manuscript Rendering media (e.g. printing ink, copy pencil, graphite) How the text is emphasized or de-emphasized though size or emphatic markings (e.g. underlining, asterisks, crossing out or erasures)	Title "The Soldiers Own Diary" relief printed on the cover in silver-coloured ink (**Figure 4 left**).[37] Four-colour printed maps on pastedowns and endleaves. Sixty-four pages of black printed text in variety of serif and sans-serif and gothic fonts, titles bolded. Text size is 1.5 mm high or less. About one hundred pages of dated diary pages with entries in handwriting for 5 pages of memoranda, then diary entries for 13 March to 26 September 1918. Handwriting relatively uniform except for colour variations (**Figure 4 right**). Text underlining: 27 April and 1 September entries. Text strikethrough: 21 April and 18 September entries.
Layout	Distribution of text, images and related markings in relation to page	The pages for the diary contents are divided in 2.3 x 6 cm dated sections. Entries generally 3–5 lines of 2–3 mm high handwriting, tightly spaced (**Figure 4 right**). Printed illustrations on many pages (**Figure 4 right**).
Bulleting	Visual devices signifying a list, so captured in Layout	See above.
Colour	Colour	Purple dye of indelible pencil (**Figure 4 right**) is activated in wet environment and colour varies from dull grey fine lines to diffuse dark purple lines within an entry depending on wetness of pencil or paper. Purple text often corresponds with mentions of rain or fog in the text.
Embedded graphics	Distribution of text, images and related markings in relation to page, so captured in Layout	See above.

It is notable that digital preservation practice has not carried forward Schellenberg's notion of informational value, and that the examples of preservation metadata and the lists of significant characteristics have little relation to the "Qualities and Characteristics of Records With Intrinsic Value" listed at the beginning of this paper (which assumed that changes in format usually do not affect archival value because they do not affect the information content). In the digital preservation context, information content, or data, alone is not sufficient to preserve record-ness but requires identification of all the characteristics, or metadata, that may affect evidential value for users. The scope of significant characteristics is substantially larger and more like a conservator's examination and condition report prior to development of a treatment proposal.

Most of the foundational work in digital preservation has been driven by government and business needs, with university-based research groups devising and refining preservation strategies. Technologically-advanced user groups are also driving innovations in preserving access to the characteristics or experiences that they feel are significant. Gamers seeking the look-and-feel of early computer games developed emulation programs to simulate the experience of obsolete software and hardware on modern platforms. Humanities scholars such as Sherry Turkle, who has examined people's relationships with material objects as well as digital technologies,[38] and Matthew Kirschenbaum, who has published a number of works on digital materiality and digital forensics,[39] are normalizing academic attention to all forms of communication. One prominent archives project uses a dedicated modern workstation to replicate several computers owned by author Salman Rushdie, and allows users to access not only all the versions of his manuscripts and the software used for those manuscripts, but also email and correspondence – anything created in that work environment.[40] Documenting, much less simulating, a records creation environment is still a rare approach in archives, and this sensitive presentation is an important precedent.

Digital forensics is an area that particularly appears to be catching on, with the Society of American Archivists (SAA) offering a certified course on the topic,[41] even though the term does not yet appear in their 2005 *Glossary of Archival and Records Terminology*.[42] The practice of digital forensics originated in the recovery of data from computers used in crime for use as evidence in court. In the archival context the tools are intended to protect the evidential value of digital records by protecting their provenance and their essential characteristics. "[D]igital forensics forces its practitioners to confront precisely the dual identity of digital data both as an abstract, symbolic entity *and* as material marks or traces indelibly inscribed in a medium."[43] This approach asserts the importance of materiality in records as evidence of their contexts of creation and their ongoing integrity. Again, conservators are trained in forensic observation and analysis of cultural property and can bring these skills to analogue records to aid in understanding the physical composition of records and how they have changed through time, as well as the potential meanings of this evidence.

Preservation of … what?

This paper has considered what gives archival records their archival value[44]– that is, their culturally significant qualities – and how modern concepts of archival value have evolved to be applicable to both analogue and digital records. One could expect that all archives have the preservation of this archival value as a primary goal and for preservation activities to be directly related to this goal. The previous section discussed the theory and practice related to this goal in the effective preservation of digital records. However, in archival preservation theory and practice for analogue records, neither preservation goals, nor the relationship between preservation goals and activities, is always clear. This section considers some of the reasons for this disparity.

All archives carry out actions intended to preserve the records in their care, but there are over 800 archival institutions in Canada[45] and only about sixteen have professionally trained conservators on staff. The majority therefore rely on guidance from peers, manuals, workshops and occasional visits from conservators working for larger organizations, so it can take considerable time for new ideas and strategies to trickle out and become widespread practice.

Terminology can play a considerable role in shaping our understandings. Archivists working with mainly analogue records generally see "conservation" as treatment, or intervention, and "preservation" as a more inclusive term focused on activities for "protecting materials by minimizing chemical and physical deterioration and damage to minimize the loss of *information* and to extend the life of cultural property."[46] (The SAA has not yet integrated digital preservation into its *Glossary*, or integrated digital media into its preservation definition, which is an indicator of how rapidly the field is changing.) This terminological difference can complicate preservation of materiality in archival records because information is singled out for protection, while evidence of functional context is notably absent. In the case of the diary from the wallet, the binding of the diary provides no information (in the archival sense of the word) beyond the title. Since the title is repeated on the title page, a protective enclosure for the diary might be seen as redundant since the covers are already protecting the text inside. Conservators see preservation as a sub-category of conservation, which also includes documentation, preventive conservation and treatment, in order to "study, record, retain and restore the culturally significant qualities of the cultural property as embodied in its physical and chemical nature, with the least possible intervention."[47] Like archivists working with digital records, conservators would consider that the binding might also have significant qualities, such as colour and discolourations, that provide context for understanding the text within. When archivists perceive conservation to be treatment, they do not think to consult conservators or conservation resources for collections preservation advice. Conservation and preservation, however, are also used interchangeably or even contradictorily.[48]

All archives do processing – the preparation of collections for storage and access – and this work is considered to be a preservation activity. In the 2005 paper introducing their "More Product, Less Process" approach to reducing unprocessed backlogs of records in archives, Mark A. Greene and Dennis Meissner looked at processing, arrangement and description practices in archives. Within this context they reviewed archival preservation and processing literature and conducted surveys to determine what physical preparation work was being done by archives to prepare records for storage and use.[49] The majority of the archives responding to this survey were too small to have conservators on staff, so they would be working without direct guidance from conservators. Greene and Meissner identified that the literature directs archives staff to carry out such item-level activities as removing metal fasteners (i.e. staples, paper clips), replacing acidic or brittle material with photocopies, and interleaving or isolating acidic or coloured material in acid-free paper folders or clear plastic sleeves.[50] These procedures have been developed to mitigate the risk of or damage from rust, planar deformations, discoloration and embrittlement, and to prevent further damage through handling. Greene and Meissner confirmed that at least one of these activities is carried out routinely by at least 58 per cent and as many as 88 per cent of the archival repositories surveyed.[51] The authors contend that much of this work is unnecessary and they conclude that such item-level work should only be justified for exceptional cases.[52]

A more archivally-compelling reason for rethinking these routine interventions is that they are usually done without regard for the significance of what may be lost; preservation of the parts may compromise the preservation of the whole. Some archivists have expressed concern to what is lost in the course of such "preservation" activities. Regarding the routine disbinding of photograph albums in the name of preservation, archivist Joan Schwartz writes: "In the process, evidential value embedded in the physical structure of the album, its sequence of pages, the placement of images, the juxtaposition of words and images, and the larger documentary universe of which it is a part is sacrificed in a misguided effort to ensure the long-term physical stability of individual photographs. Both the meaning of the album, not simply as a housing for the images, but as a document in its own right, as well as the information it was compiled to communicate, are lost."[53] This highlights the need for clear relationships between archival value, preservation goals and preservation strategies for analogue records.

At issue is not the theoretical risks to records but that such interventions are considered routine rather than strategic. For instance, if the function and significance of fasteners is not considered and documented, metadata, and therefore archival value, may be lost. Metal fasteners are usually used by records creators to create and maintain physical relationships between pages of a document. The age and design of the fastener may provide evidence of when the document was assembled. Planar deformations and rust associated with the fasteners are evidence that the original order has not been disturbed, and is evidence of the storage history of the record if the rust occurred prior to the transfer to archival custody. Therefore phenomena that are often perceived as damage may actually add archival value to a record.[54] An institution whose preservation goals include the preservation of archival records as contextual evidence might actively, if inadvertently, be destroying some of their evidential value through such routine (and largely undocumented) changes to physical structures and interrelationships. A more strategic approach would consider the condition of the fastener, the storage environment, and the chemical stability and condition of the paper, as additional factors in the decision regarding whether the fasteners should be removed, as well as the appropriate level of documentation.

Because the majority of archival preservation methodology and publications originate in the United States, it is not surprising that they reflect the Schellenbergian tradition. The Association of Canadian Archivists has not developed its own glossary, and the English language preservation literature continues to focus almost exclusively on methodology to preserve information as written, image and aural content, in keeping with Schellenbergian theory. But relatively recent publications from dominant archival institutions or organizations in Australia, South Africa and Canada – countries where at least some more strongly contextual approaches have been adopted – also have not reflected substantial shifts in thinking about preservation practices.[55] Even the Glossary entries for "Preservation" and "Reformatting" in the CAC and CPAC's *Code of Ethics and Guidance for Practice* refer to "material valued exclusively for its information content," implying archival records; although, by definition, information alone is not a record, and therefore it would not have archival value.[56]

The contextualist perspective is absent from analogue preservation practice, which does not question what is to be preserved and why – and therefore it does not make direct connections to the theoretical basis for archival appraisal decisions.[57] The 2003 edition of the Canadian Council of Archives' *Basic Conservation of Archival Materials: A Guide*[58] and the 2010 edition of *Preserving Archives and Manuscripts*,[59] start with good advice regarding surveying and general preservation management, but the sections on caring for different media remains focused on such item-level interventions. Advice regarding removal of fasters and folders does not include consideration of whether these may, in fact, be considered an integral part of the records and require preservation as well. Neither book references appraisal theory and practice in the sections on policy development, or deals with digital records preservation.

In the case of Arthur Morrison's wallet, the records see very little use, they appear to be in stable condition, and are in a good storage environment, so they are stored intact in the wallet, which has a polyethylene foam enclosure to protect the leather exterior. When the wallet is brought out for research use, the items most vulnerable to abrasion – the photographs – are removed from their pocket in the wallet by staff, but otherwise a researcher may unpack the wallet in whatever sequence they wish. An archives following the standard processing procedures would separate the various components

– the metal mirror, the leather wallet and mirror sheath, the bound diary and paybook, the loose pages from the paybook, and the photographs – and house them in separate enclosures to avoid further abrasion or negative chemical changes from contact with the leather components. The thirty-four photographs might be housed in several multi-pocket polyester sleeves, in groupings based on their size, or thematically; they have no logical order so one will be imposed through this process and then preserved, since researchers are not usually allowed to remove photographs from their sleeves. A researcher's access to, and experience of, the evidence in the records will be very different, much less tactile, but the physical actions of revealing and arranging the components of Morrison wallet may be as important as their textual and image content in understanding the role the records played for Morrison and for his family and the ongoing value of these records to society.[60]

Until very recently, archival literature and practice has treated the preservation of digital records as fundamentally different from the preservation of older forms of archival records, but the obvious physical differences may mask the conceptual similarities between the many forms and functions of records. In the last few years, however, professors at the Simmons College Graduate School of Library and Information Science appear to be leading a shift away from the separation of analogue and digital preservation. In a 2010 chapter on "Preserving Records of Enduring Value," Michèle Cloonan is pointedly inclusive in defining the scope of her terms to include both digital and analogue records, and collection care as well as item-level interventions, and even cross-references historic preservation literature.[61] In 2013, Ross Harvey and Martha Mahard discuss hybrid collections of digital and analogue materials, and the skills needed for those working in this new preservation environment, observing that in libraries where digital preservation is practiced "distinctions between digital and analogue records and how they are managed is breaking down."[62] These authors highlight convergence, and are more active in library work than archives, but they still follow the Schellenbergian tradition of insisting on the separation of the physical "object" or "artifact" and the information that it carries, privileging text/image content over physically manifested context and structure – privileging data over metadata. In her brief article "Is There Such a Thing as Digital Preservation?" Leslie Johnston, who has managed digital collections in libraries and museums, contends that analogue and digital preservation are a "single continuum of practice," and that "at the core, the [preservation] skill set is one of being able to identify risks, analyze collections for risks, make decisions about needed preservation actions and take them."[63]

Moving Forward

This paper has looked at the evolving conceptions of archival value, and how digital preservation needs are increasingly leading shifts in understanding the significant properties of records. It has proposed that the materiality in analogue records is akin to metadata for digital records, and that it is integral to the record-ness of analogue records. These newer ways of looking at records offer opportunities to invigorate analogue archival preservation practice, especially in institutions with conservators on staff. As more archivists and conservators are trained in managing digital as well as analogue collections, digital theory and practice will increasingly inform analogue practice. Current archival preservation practices for analogue records are not always effective in preserving the archival value of records in all forms, and some routine archival practices appear to ignore the relationship between materiality and archival value, and may even obstruct, diminish, or destroy the characteristics meant to define archival value today. If the goal was still merely the preservation of information content in paper-based records, then the written and image content of individual items could be said to be preserved. But if context and structure are as important as content, and if metadata is as important as data, then archival preservation practices are clearly not effective for preserving these very aspects of records which contribute so significantly to their archival value. For archival preservation outcomes to effectively align with archival preservation goals, all archival practices should follow from the same theoretical foundation.

Archival preservation practice is not very effective at preserving the maximum evidential value of records because most archivists have not actively considered materiality as a significant property of records, or as metadata. The training and experience of most archivists will not deal with materiality as inherently part of evidence or information, as content, context and structure, as data and metadata, to be actively considered in appraisal and description and in subsequent decisions which may affect this contribution to archival value. To ensure their preservation, these characteristics need to be recognized and actively managed to maintain the archival value of both digital and analogue records. Identification of significant properties in digital records was intended to "provide an empirical foundation for making collection-management decisions where choices of preservation strategies may eliminate or alter some of the properties of original objects."[64] Properties that are not recognized and managed risk being lost. Conservators have highly developed sensitivity to the contextual significance of the material composition, condition, and signs of use and care in cultural property, so we are well equipped to increase forensic awareness of this material evidence to our archivist colleagues. Conservators working in archives might find it useful to re-frame work they do with analogue records to highlight "forensic" examination, and identification and documentation of "significant properties" related to the evidential value of records in discussion with archivists.

The critical connection between archival appraisal, documentation and preservation is clear for digital records, and can serve as a starting point for developing preservation goals and strategies directly related to archival value for all media. Effective physical preservation strategies require understanding the component materials and the mechanisms of their deterioration, regardless of a record's content. For instance, a portrait sketch, a technical plan, a court record, and a grocery list could all be rendered in the same iron gall ink

formulation on the paper from the same ream, so the essential requirements for their long-term preservation will be the same. Digital records management follows common essential requirements and principles and could be a model to help archives get away from managing analogue collections by their documentary form, such as text, photographs or documentary art, rather than by their physical needs, such as chemical stability and physical stability.

Methodologies cited as best practices in mainstream archival preservation literature are generally directed at archives without conservators on staff and may oversimplify preservation issues by focusing on managing the longevity of material components of records, and therefore put archival value related to interrelationships and presentations at risk of loss. Archival preservation practice must, therefore, move beyond passively following generic "best practices" for longevity, especially when these practices could potentially compromise context, and, by extension, archival value.[65] An approach based on risk assessment is valuable for developing customized strategies for managing the inevitable changes to the ever-increasing volumes of increasingly complex holdings and allocating resources where they will have the greatest benefits for the preservation of archival value.[66] Strategies for managing the identified risks must be integrated throughout all archival functions, for instance, by using documentation to preserve material metadata for reformatted records and to provide context for further decision making, especially where there are multiple risks to be considered simultaneously. For instance, minimum intervention could be the standard level for processing large volumes of records, with a triage process to identify those with specific risks that might require higher levels of intervention. Archives with conservators on staff can take a leadership role in this area within the larger archival community. With our common training in preventive conservation and our professional networks, conservators are already connected to the larger heritage preservation universe and can tap into strategies for addressing similar issues in other kinds of memory institutions.

In a 1992 review of writings on archival preservation which appeared in the *American Archivist*, Richard Cox found that 1970–1979 were the peak years for writing about preservation.[67] Almost all the articles classified as "conservation and preservation" in the 2003 index to the first 54 issues of *Archivaria*, the Canadian archivist's journal, were published before 1990. Only three full-length papers by conservators have been published in *Archivaria* to date, and of these only one, published in 1989, attempts to build understanding between the professions.[68] Only one paper published in the main Canadian and US archival journals over the last ten years has reflected contemporary conservators' perspectives regarding why and how we manage preservation.[69] The Association of Canadian Archivists (ACA) has no preservation Special Interest Section and conservators rarely participate in the few preservation discussions on the listservs of either the ACA or the SAA. Conservators are almost invisible within the archival community, easy to overlook, and therefore risk being considered increasingly marginal. It is therefore critical for us to engage with our non-conservator colleagues – at personal, institutional and professional levels – to hear what is valued now and to communicate the scope of what we can offer toward the preservation of what is valued. We need to communicate effectively what we have to offer: what we do and why, and how our perspective is valuable to understanding records as records, and to preserving the archival value of records in all formats – both analogue and digital.

Notes and References

1. For an overview of the history of modern archives see Cook, Terry, "What is Past is Prologue: A History of Archival Ideas Since 1898, and the Future Paradigm Shift," *Archivaria*, vol. 43, 1997, pp. 17–63. For a discussion of Canadian archival education to the early 1990s see Schaffer, Roy, "From Craft to Profession: The Evolution of Archival Education and Theory in North America," *Archivaria*, vol. 37, 1994, pp. 21–34; and for a description of the programs and related thesis work at the University of British Columbia and the University of Manitoba see *Archivaria*, vol. 55, 2003. Much of this paper is based on ideas explored in greater detail in Rekrut, Ala, "Reconnecting Mind and Matter: Materiality in Archival Theory and Practice," Master's thesis, University of Manitoba/University of Winnipeg, 2009, <http://mspace.lib.umanitoba.ca/handle/1993/3161>. Accessed July 2014. An early version of this paper was presented at the CAC Conference in Winnipeg, 26 May 2011.

2. Jenkinson, Hilary, *A Manual of Archive Administration*, new and revised edition (London: Percy Lund, Humphries & Co Ltd, 1937).

3. Jenkinson, *Manual*, p. 15. Jenkinson provided detailed instructions regarding both preventive conservation and repair of records. While Jenkinson may have been the first to articulate these ideas in an English-language manual for archivists, the repair principles and practices espoused by Jenkinson appear in internal reports by Sir Henry Cole, Assistant Keeper of the Carlton Ride Repository of the Public Records Office, and responsible for directing repairs in the 1840s. See Bearman, Fredrick, "Conservation Principles and Ethics: Their Origins and Development," in: *IPC Conference Papers London 1997*, Proceedings of the Fourth International Conference of the Institute of Paper Conservation, 6–9 April 1997, edited by Jane Eagan (London: Institute of Paper Conservation, 1997), pp. 83–89.

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

5. Pearce-Moses, Richard, *Glossary of Archival and Records Terminology* (Chicago: Society of American Archivists, 2005), p. 29, <http://www2.archivists.org/glossary/terms/a/archival-value>. Accessed July 2014. This estimate is for organizational records; estimates are sometimes higher for personal records and lower for government records.

6. Schellenberg, *Modern Archives*, p. 161.

7. O'Toole, James, "On the Idea of Permanence," *American Archivist*, vol. 52, no. 1, 1989, pp. 14, 18–20 *passim*.

8. For an unusually broad view of "information" within the information science field, see for instance Buckland, Michael K., "Information as Thing," *Journal of the American Society for Information Science*, vol. 42, 1991, pp. 351–360.

9. Schellenberg, *Modern Archives*, p. 167.

10. National Archives and Records Administration (formerly National Archives and Records Service), *Intrinsic Value in Archival Materials*, Staff Information Paper Number 21 (Washington, DC: NARA, 1982), 6 pp., <http://www.archives.gov/research/alic/reference/archives-resources/archival-material-intrinsic-value.html>. Accessed July 2014. To this author's knowledge, the only published critical assessment of the NARS document is McRanor, Shauna, "A Critical Analysis of Intrinsic Value," *American Archivist*, vol. 39, no. 4, 1996, pp. 400–411.

11. Indeed, an exhibition can draw attention to the very absence of records, such as a National Archives of Australia website which includes descriptions of documents related to the founding of Australia but whose locations are unknown. See "Documenting a Democracy: Colonel Collins' Commission 14 January 1803 (NSW)," in: Museum of Australian Democracy website, <http://foundingdocs.gov.au/item.asp?dID=69>. Accessed July 2014.

12. In common usage intrinsic means "inherent, essential; belonging naturally." *Paperback Oxford Canadian Dictionary*, 2004, s.v. "Intrinsic."

13. Similar language is present in Library and Archives Canada's (LAC) Multi-Institutional Disposition Authorities which allow for destruction of paper "source records" except when they "may have intrinsic value based on unusual physical characteristics or age." A short list of examples of particular record genres or record technologies follows. For instance, photographs, slides and negatives are specified without explanation of what is inherently unusual about these photographic records when the LAC already has over twenty million photographic images in its collections. See "Multi-Institutional Disposition Authorities (MIDA)," Section 4.3 in: Library and Archives Canada website, <http://www.bac-lac.gc.ca/eng/services/government-information-resources/disposition/multi-institutional-disposition-authorities/Pages/1996-023-electronic-imaging.aspx>. Accessed March 2015.

14. See for instance Nesmith, Tom, "Archives From the Bottom Up: Social History and Archival Scholarship," *Archivaria*, vol. 14, 1982, pp. 5–26.

15. Nesmith, Tom, "Introduction: Archival Studies in English-speaking Canada and the North American Rediscovery of Provenance," in: *Canadian Archival Studies and the Rediscovery of Provenance*, edited by Tom Nesmith (Metuchen, NJ: Scarecrow Press, 1993), p. 14.

16. Booms, Hans, "Society and the Formation of a Documentary Heritage: Issues in the Appraisal of Archival Sources," *Archivaria*, vol. 24, 1987, pp. 69–107. For a comprehensive discussion of macroappraisal see Cook, Terry, "Macroappraisal in Theory and Practice: Origins, Characteristics, and Implementation in Canada, 1950–2000," *Archival Science*, vol. 5, no. 2–4, 2005, p. 122. Macroappraisal theory and methodology has influenced major federal government records appraisal initiatives in Australia, New Zealand, South Africa, England and Scotland.

17. This summary is from Harris, Verne, *Exploring Archives: An Introduction to Archival Ideas and Practice in South Africa* (Pretoria: National Archives of South Africa, 2000), pp. 40–41.

18. Prown, Jules David, "The Truth of Material Culture: Fact or Fiction?" in: *History From Things: Essays on Material Culture*, edited by Steven Lubar and W. David Kingery (Washington and London: Smithsonian Institution Press, 1993), p. 1. For a discussion of these ideas in an archival context see Rekrut, Ala, "Material Literacy: Reading Records as Material Culture," *Archivaria*, vol. 60, 2005, pp. 11–37; and Rekrut, Ala, "Connected Constructions, Constructing Connections: Materiality of Archival Records as Historical Evidence," in: *Archival Narratives for Canada: Re-Telling Stories in a Changing Landscape*, edited by Kathleen Garay and Christl Verduyn (Halifax and Winnipeg: Fernwood Publishing, 2011), pp. 135–157.

19. Cook, Terry, "Archival Science and Postmodernism: New Formulations for Old Concepts," *Archival Science*, vol. 1, no. 1, 2001, p. 4.

20. Cook, "Archival Science and Postmodernism," p. 22. Emphasis added.

21. Canadian Association for Conservation of Cultural Property (CAC) and Canadian Association of Professional Conservators (CAPC), *Code of Ethics and Guidance for Practice of the Canadian Association for Conservation of Cultural Property and of the Canadian Association of Professional Conservators*, 3rd edition (Ottawa: CAC and CACP, 2000), p. 5, <http://www.cac-accr.ca/files/pdf/ecode.pdf>. Accessed July 2014. Ian Hodkinson discussed the "continuum of significance modifications" in "Man's Effect on Paintings," in: *Shared Responsibility: Proceedings of a Seminar for Curators and Conservators*, edited by Barbara Ramsay-Jolicoeur and Ian Wainright (Ottawa: National Gallery of Canada, 1990), pp. 59–60.

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24. Gilliland, "Setting the Stage," p. 9.

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26. CCSDS, "OAIS," p. 1-12.

27. CCSDS, "OAIS," p. 1-1.

28. CCSDS, "OAIS," pp. 4-20–4-21.

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36. Hedstrom and Lee, "Significant Properties," pp. 218–219.

37. The full title on the title page reads: "Soldiers' Own Notebook and Diary for 1918 Containing Useful Information Invaluable to Every Soldier at Home or at the Front, Compiled by J. Gibson, 19th Co. R.G.A." This edition, "Bound in cloth with pencil," is indicated to have cost 1 shilling.

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39. For an excellent introduction to Kirchenbaum, digital materiality and digital forensics, see Owens, Trevor, "What's a Nice English Professor Like You Doing in a Place Like This: An Interview Matthew Kirschenbaum," *The Signal: Digital Preservation*, 12 August 2013, in: Library of Congress website, <http://blogs.loc.gov/digitalpreservation/2013/08/whats-a-nice-english-professor-like-you-doing-in-a-place-like-this-an-interview-matthew-kirschenbaum/>. Accessed July 2014.

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44. Of course archival records may have other kinds of value (e.g. monetary, artistic, historical) which may overlap with collections in other kinds of cultural institutions, but those would not be the main reason for archives to acquire them.

45. Wilson, Lara, "The Canadian Archival System Today: An Analysis," presented at the Canadian Archives Summit, Toronto, 17 January 2014, p. 3, <http://archivists.ca/sites/default/files/Attachments/Advocacy_attachments/larawilsonsummit.pdf>. Accessed July 2014.

46. Pearce-Moses, *Glossary*, p. 304, <http://www2.archivists.org/glossary/terms/p/preservation>. Accessed July 2014. Emphasis added.

47. CAC and CAPC, *Code of Ethics*, p. 13.

48. For instance, the Canadian Council of Archives published *Basic Conservation of Archival Materials* as its preservation guide. Some of the terminological preferences may be regional. The few Canadian archives large enough to employ specialists tend to employ conservators trained to work in a broad range of potential heritage contexts, prepared to fill preservation management gaps as required, and who may not even be aware of how narrowly their scope of responsibility is perceived in the archival literature.

49. Greene, Mark A. and Dennis Meissner, "More Product, Less Process," *American Archivist*, vol. 68, no. 2, 2005, pp. 208–263.

50. Greene and Meissner, "More Product, Less Process," pp. 217–222. A document on the Canadian Council of Archives website to aid archives in preparing grant proposals identifies similar activities under Physical Processing: "Time Guidelines for Arrangement and Description Projects," p. 2, <http://184.154.168.45/~archives/doc/CCA_Guidelines.pdf>. Accessed July 2014.

51. Greene and Meissner, "More Product, Less Process," pp. 230–231.

52. Greene and Meissner, "More Product, Less Process," pp. 250–251. See also conservator Laura McCann's review of the responses to the challenges to the "More Product, Less Process" approach and recommendations for development of preventive conservation programs to meet archival collection needs more effectively in McCann, Laura, "Preservation as Obstacle or Opportunity? Rethinking the Preservation-Access Model in the Age of MPLP," *Journal of Archival Organization*, vol. 11, no. 1-2, 2013, pp. 23–48.

53. Schwartz, Joan M., "Coming to Terms with Photographs: Descriptive Standards, Linguistic 'Othering,' and the Margins of Archivy," *Archivaria*, vol. 54, 2002, p. 157.

54. Ian Hodkinson has noted, "Not all [physical] changes must be regarded as damage, or deterioration, with automatic attempts at reversal or restoration. It is suggested that all changes and additions be thoroughly examined to determine how and why they got there and what their current and future significance is, before new intervention takes place." Hodkinson, "Man's Effect on Paintings," p. 59.

55. The two pages devoted to preservation in *Archives: Recordkeeping in Society*, the state-of-the-art text from Australia, describe post-custodial models for preservation of electronic records, but do not consider the implications of the new approaches for dealing with non-electronic records. See McKemmish, Sue, Barbara Reed and Michael Piggott, "The Archives," in: *Archives: Recordkeeping in Society*, Topics in Australasian Library and Information Studies No. 24, edited by Sue McKemmish, Michael Piggott, Barbara Reed and Frank Upward (Wagga Wagga, Australia: Centre for Information Studies, Charles Sturt University, 2005). The brief "Preservation" chapter of South African Verne Harris' *Exploring Archives* is largely devoted to the activities described by Greene and Meissner, and simply concludes by noting that shifts in the nature of preservation activities will inevitably follow the general shift in emphasis to the context of records creation. See Harris, Verne, *Exploring Archives: An Introduction to Archival Ideas and Practice in South Africa* (Pretoria, South Africa: National Archives of South Africa, 2000), pp. 46–52. The Canadian Council for Archives' *Basic Conservation Manual for Archives* remains devoted to methodology, despite the activity of many of the leaders of the contextualist approach, including Hugh Taylor, Tom Nesmith, Joan Schwartz and Terry Cook, within the national community. See Canadian Council of Archives, *Basic Conservation of Archival Materials*, revised edition (Ottawa, 2003), <http://www.cdncouncilarchives.ca/public_free.html>. Accessed July 2014.

56. "**Preservation:** All actions taken to retard deterioration of, or prevent damage to, cultural property. Preservation involves management of the environment and of the conditions of use, and may include treatment in order to

maintain a cultural property, as nearly as possible, in a stable physical condition. With respect to material valued exclusively for its information content, for example some archival material, preservation may include reformatting." CAC and CAPC, *Code of Ethics*, p. 14.

57. Works examined for this paper include Balloffet, Nelly and Jenny Hille, editors, *Preservation and Conservation for Libraries and Archives* (Chicago: American Library Association, 2005); Canadian Council of Archives, *Basic Conservation of Archival Materials*; Conway, Paul, "Archival Preservation Practice in a Nationwide Context," *American Archivist*, vol. 53, no. 2, 1990, pp. 204–222; Duckett, Kenneth W., "Physical Care and Conservation," in: *Modern Manuscripts: A Practical Manual For Their Management, Care, and Use* (Nashville, TN: American Association for State and Local History, 1975), pp. 86–112; Feather, John, editor, *Managing Preservation for Libraries and Archives: Current Practice and Future Developments* (Aldershot, U.K. and Burlington, VT: Ashgate Publishing Limited, 2003); Gorman, G.E. and Sydney J. Shep, editors, *Preservation Management for Libraries Archives and Museums* (London: Facet Publishing, 2006); Harris, Verne, "Preservation," in: *Exploring Archives: An Introduction to Archival Ideas and Practice in South Africa* (Pretoria, South Africa: National Archives of South Africa, 2000), pp. 46–52; Harvey, Ross, "Preservation," in: *Keeping Archives* (2nd edition), edited by Judith Ellis (Melbourne: Thorpe in association with the Australian Society of Archivists, 1992), pp. 74–107; Marrelli, Nancy, *Implementing Preservation Management: A How-To Manual For Archives* (Montreal: Réseau des archives du Québec, 1996); National Association of Government Archives and Records Administrators (NAGARA), *Guide & Resources For Archival Strategic Preservation Planning (GRASP) Manual* (Atlanta, GA: NAGARA, 1990); Ogden, Sherelyn, *Preservation Planning: Guidelines For Writing a Long-Range Plan*, Professional Practice Series (Washington, DC: Technical Information Service, 1997); Ritzenthaler, Mary Lynn, *Archives and Manuscripts: Conservation: A Manual on Physical Care and Management*, Basic Manual Series (Chicago: Society of American Archivists, 1983); Ritzenthaler, Mary Lynn, *Preserving Archives and Manuscripts*, Archival Fundamentals Series (Chicago: Society of American Archivists, 1993); and Ritzenthaler, Mary Lynn, *Preserving Archives and Manuscripts*, 2nd edition (Chicago: Society of American Archivists, 2010).

58. Canadian Council for Archives, *Basic Conservation of Archival Materials*, revised edition, 2003.

59. Ritzenthaler, *Preserving Archives and Manuscripts*, 2nd edition, 2010.

60. "Figuratively speaking, we put ourselves inside the bodies of the individuals who made or used these objects; we see with their eyes and touch with their hands. To identify with people from the past or from other places empathetically through the senses is clearly a different way of engaging them than abstractly through the reading of written words." Prown, "The Truth of Material Culture," p. 17.

61. Cloonan, Michèle V., "Preserving Records of Enduring Value," in: *Currents of Archival Thinking*, edited by Terry Eastwood and Heather MacNeil (Santa Barbara, CA: Libraries Unlimited, 2010), pp. 69–88.

62. Harvey, Ross and Martha Mahard, "Mapping the Preservation Landscape for the Twenty-First Century," *Preservation, Digital Technology and Culture*, vol. 42, no. 1, 2013, p. 9.

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