

## **Authenticity and Appraisal: Appraisal Theory Confronted With Electronic Records**

Since Harold Naugler's 1983 RAMP Study, the issue of the appraisal of electronic records has been at the forefront of archival writings.<sup>1</sup> Reading this literature, the general consensus appears to be that the values and criteria of appraisal have not changed, but the methodology must be adapted to the new circumstances. More specifically, archival writers agree that appraisal needs to be conducted early in the records' life-cycle and more than once, and that it must involve a variety of professionals, including information technology specialists and the creators of the records.<sup>2</sup> However, no part of this literature has concerned itself with the authenticity of electronic records. Yet, authenticity does represent a great challenge for the appraiser.

In 1922, Sir Hilary Jenkinson identified "authenticity" as one of the characteristics of archival material, and linked it to the procedures of creation, maintenance and preservation. Archival documents are trustworthy as statements of fact because those who generate them need to rely on them for action or reference, and they are trustworthy as records because that same need of the creator and its legitimate successor ensures that proper guarantees are put into place to keep them intact over time, both in the short and the long term.<sup>3</sup> With electronic records, a presumption of authenticity based on the reliance on them by their creator and on unbroken custody is no longer possible.<sup>4</sup> Because of their manipulability, vulnerability and fragility, the authenticity of electronic records is constantly at risk, especially when they are transmitted across space and time and when they are migrated from an obsolescent system to a new one. Thus, authenticity cannot be considered a characteristic of all electronic records, but only of those whose processes of creation, maintenance and preservation respect certain pre-established authenticity requirements. In all other cases, authenticity must be verified.

The discussion that follows is based on the findings of the InterPARES (International research on Permanent Authentic Records in Electronic Systems) project, a collaborative, multidisciplinary research endeavour aimed at developing the theoretical and methodological knowledge necessary for the long-term preservation of the

authenticity of electronic records. It will focus on the work of the Authenticity Task Force, which articulated authenticity requirements, of the Appraisal Task Force, which developed an appraisal methodology, and of the Preservation Task Force, which, in the process of developing its preservation methodology, formulated some of the preservation concepts illustrated in this paper.<sup>5</sup>

An authentic record is one that is what it purports to be. Record authenticity comprises identity and integrity. “Identity” refers to the attributes of a record that uniquely characterize it and distinguish it from other records. These attributes include: the names of the persons concurring to its formation (i.e., author, addressee, writer and originator); its date(s) of creation and transmission; an indication of the matter or action in which it participates; the expression of its archival bond, that is, of its relationships to the other records within the same fonds; as well as an indication of any attachment(s). These attributes may be explicitly expressed by elements of the record (e.g., a signature, a subject line, or a classification code) or by metadata linked to the records (e.g., a register entry), or may be implicit in the various contexts of the record (i.e., administrative, provenancial, procedural, documentary, or technological). “Integrity” refers to the wholeness and soundness of a record. A record has integrity if it is intact and uncorrupted. A record is intact and uncorrupted if the message that it is meant to communicate in order to achieve its purpose is unaltered. Its physical integrity (e.g., in an electronic record, the proper number of bit strings) may be compromised, provided that the articulation of the content and its required elements of form remain the same. Integrity may be demonstrated by evidence found on the face of the record, in metadata related to the record, or in one or more of its contexts.

In light of these definitions, in order to assess the authenticity of a record, one has to establish its identity and demonstrate its integrity. The question for us is “who should be responsible for such an assessment?” The archivist or the researcher? Traditionally, archivists have rejected such responsibility. In cases of demonstrable unbroken custody, archivists presumed authenticity, but even so, if asked to declare a record authentic, they would only go as far as to declare that a record in their custody was as authentic as when transferred to the archives. In a 1949 article, Herman Kann wrote that, if a researcher were to request a declaration that a document is genuine, the archivist should firmly

refuse to issue it, because this kind of interpretation is not part of its responsibilities.<sup>6</sup> Thus, the assessment of the authenticity of archival documents is traditionally a responsibility of the researcher. This is perfectly consistent with archival theory and the impartiality that it accords to the professional archivist. The only important role archivists have with respect to authenticity is to describe the records in their custody in context, by making explicit, freezing and perpetuating their relationships with their creator and among themselves: this elucidation of the records in their various contexts is one of the primary instruments of any researcher who wishes to assess the records' authenticity. Beyond archival description and certification of the authenticity of copies of records in their custody, archivists have traditionally held no other role with respect to the authenticity of records, especially when it came to appraisal.

Archival theory accepts selection only in the measure in which it respects the characteristics of the records, that is, their naturalness, impartiality, authenticity, interrelatedness, and uniqueness, by not interfering with them in the process of assigning value. In other words, as long as the archivist does not import into his function elements of personal judgment, the selection of records for permanent preservation is a legitimate archival endeavor. In this context, the assessment of the authenticity of records is an activity that risks compromising the impartiality of the records by both alerting the creators to their inherent value, and interpreting the records' formal elements and evaluating their processes of creation and maintenance. Also archival practice has traditionally rejected the assessment of the authenticity of the records as part of appraisal on the grounds that it would make appraisal far too laborious and time consuming. However, this common stance of archival theorists and practitioners could be held only because, with traditional records, the documents entering an archival institution or program were the same made or received and set aside by their creator or legitimate successor and evaluated by the archivist in the scheduling process. Thus, the assessment of authenticity could be easily delegated to future researchers, who would be able to analyze the documents under scrutiny in their original instantiation, that is, in the same form and status of transmission they had when first made or received and set aside. This is no longer the case.

Electronic records undergo several changes from the moment they are generated to the moment they become inactive and are ready for disposal. Some of those changes are intentional. Information technology is in a constant state of development. Records creators continually update their systems and the live documents contained in them, at times with minimal consequences for the form, functionality, organization and metadata of the records, other times with dramatic consequences. The latter situation is more likely to occur when records generated in an obsolete system are migrated to a new one. In addition to intentional changes, inadvertent changes occur, simply because of the fact that it is impossible to maintain an electronic document; it is only possible to store its digital components in a way that the document can be reproduced when needed. A digital component is a digital object that contains all or part of the content of an electronic record, and/or data or metadata necessary to order, structure, or manifest the content, and that requires specific methods for storage, maintenance and preservation.<sup>7</sup> In any case, every time an electronic record is reproduced from its digital components, it is slightly different from the previous time. This happens because there are three steps in the reproduction of an electronic record. The first step is to reassemble all the record's digital components in the correct order. The second step is to render the components, individually and collectively, in the correct documentary form<sup>8</sup>. The third step is to reestablish the relationships between the record in question and all the other records that belong in the same archival aggregation (e.g., series, file). This requires, first, to reestablish the structure of the archival aggregation, and then, to fill it with the records that belong to it. Each step involves a margin of error. Considering that the processes of storage and retrieval by re-production imply transformations both physical and of presentation, the traditional concept of unbroken custody must be extended to include the processes necessary to ensure the unaltered transmission of the record through time, and must therefore become an "unbroken chain of preservation," which begins when the records are created respecting established authenticity requirements, and continues with the documentation of all the changes to the records and of the processes of appraisal, transfer, reproduction and preservation. However, the most important consequence of this situation is that the appraisal function must include appropriate activities aiming at

ascertaining the authenticity of the records considered for selection, monitoring it, and attesting it.

The appraisal of electronic records must therefore comprise the following activities: compiling information about the records and their contexts, assessing the value of the records, determining the feasibility of preserving them, and making the final appraisal decision. The information that needs to be gathered about the records includes information on the context of creation and on the technological context, which establishes the basis upon which the records are considered authentic. The assessment of the value of the records involves assessing both the continuing value of electronic records and their authenticity. Determining the feasibility of preserving electronic records involves deciding whether the digital components embodying the essential elements that confer identity to and ensure the integrity of the records can be preserved, given the current and anticipated technological capabilities of the archives. This determination process comprises three steps. The appraiser identifies both the record elements containing informational content and those elements that need to be preserved according to the authenticity requirements that constitute the terms of reference for the archivist. Then, the appraiser identifies where these crucial record elements are manifested in the digital components of the electronic record. Finally, the appraiser reconciles these preservation requirements with the preservation capabilities of the institution that is responsible for the continuing preservation of the body of records being appraised. The appraisal decision comprises two parts: a determination of what must be transferred to the archives, including the list of the digital components of each record, and a determination of how and when this should happen, including the identification of acceptable formats and methods of transmission to the archives.

Once appraisal is concluded, the records selected for preservation must be continually monitored till the day of the transfer, especially for changes in their technological context. In some cases it may be necessary to repeat the appraisal because of changes that can affect the feasibility of preservation. In most cases, however, monitoring produces minor revisions to the documentation on the selection and to the terms and conditions of transfer.

As mentioned earlier, the appraisal function, inclusive of the monitoring activity, uses the authenticity requirements formally adopted by the acquiring archival institution as terms of reference. It does so to assess both the authenticity of the records and the feasibility of their preservation. The InterPARES project has identified eight such requirements. They are the following:

**Benchmark Requirement A1:**

***Expression of Record Attributes & Linkage to Record***

The value of the following attributes is explicitly expressed and inextricably linked to every record. These attributes can be distinguished into categories, the first concerning the identity of records, and the second concerning the integrity of records.

•*A.1.a*

Identity of the record:

•*A.1.a.i*

Names of the persons concurring in the formation of the record, that is: name of author, writer, originator, and addressee•*A.1.a.ii*

Name of action or matter

•*A.1.a.iii*

Date(s) of creation and transmission, that is: chronological date, received date, archival date, transmission date(s)

•*A.1.a.iv*

Expression of archival bond

•*A.1.a.v*

Indication of attachments

•*A.1.b*

Integrity of the record:

•*A.1.b.i*

Name of handling office

•*A.1.b.ii*

Name of office of primary responsibility

•*A.1.b.iii*

Indication of types of annotations added to the record

•*A.1.b.iv*

Indication of technical modifications

**Benchmark Requirement A2:**

***Access Privileges***

The creator has defined and effectively implemented access privileges concerning the creation, modification, annotation, relocation, and destruction of records.

**Benchmark Requirement A3:**

***Protective Procedures: Loss and Corruption of Records***

The creator has established and implemented procedures to prevent, discover, and correct loss or corruption of records.

**Benchmark Requirement A4:**

***Protective Procedures: Media and Technology***

The creator has established and implemented procedures to guarantee the continuing identity and integrity of records against media deterioration and across technological change.

**Benchmark Requirement A5:**

***Establishment of Documentary Forms***

The creator has established the documentary forms of records associated with each procedure either according to the requirements of the juridical system or those of the creator.

**Benchmark Requirement A6:**

***Authentication of Records***

If authentication is required by the juridical system or the needs of the organization, the creator has established specific rules regarding which records must be authenticated, by whom, and the means of authentication.

**Benchmark Requirement A7:**

***Identification of Authoritative Record***

If multiple copies of the same record exist, the creator has established procedures that identify which record is authoritative.

**Benchmark Requirement A8:**

***Removal and Transfer of Relevant Documentation***

If there is a transition of records from active status to semi-active and inactive status, which involves the removal of records from the electronic system, the creator has established and implemented procedures determining what documentation has to be removed and transferred to the preserver along with the records.

A presumption of authenticity will be based upon the number of requirements that have been met and the degree to which each has been met. If the presumption of authenticity is too weak, a verification of authenticity will be necessary. A verification of authenticity is the act or process of establishing a correspondence between known facts about the records and the various contexts in which they have been created and maintained, and the proposed fact of the records' authenticity. It involves a detailed examination of the records in all their contexts and of reliable information available from other sources (audit trails, backups, copies preserved elsewhere, textual analysis). The resulting assessment may affect the determination of the records' value. This information is also crucial to understanding and using the records once they have been transferred to the preserver. Future users of the records must know how well founded a declaration of authenticity of the records is, and what information that declaration is based on in order to make their own assessment, long after the fact, at a time when accumulating relevant information will be difficult, if not impossible. If the appraiser has good reason to suspect that the records no longer reflect what they were at the time of their creation and primary use, he or she may decide not to preserve them.

However, even if the appraiser determines that the records are to be considered authentic, the final appraisal decision must take into account the feasibility of preservation, as noted earlier. During the assessment of authenticity, the appraiser establishes what the requirements are for preserving such authenticity intact. The need to reconcile preservation requirements with the archival institution's preservation capabilities produces two bodies of information that inform the final appraisal decision. The first is information about the digital components to be preserved, which would explain where the records formal elements that are vital for maintaining authenticity are manifested in the potentially various components of the electronic records, and what technical information about those components would be required for subsequent preservation activities. The second type of information indicates the kind of software needed to view the records or what data are necessary for retrieval purposes. The feasibility of preserving a given body of authentic electronic records must be based on current or anticipated financial and technical capabilities of the institution. The outcome of this process is an appraisal decision, which sets out the disposition of the records.



It is important that there be documentation explaining and justifying the appraisal decision. It should be clear why some records were preserved and others were not, both for accountability purposes and so that future users of the records can understand them. In fact, this documentation constitutes permanent records of the archives that must be accessible to researchers wanting information about appraisal and about records selected for preservation. Information about appraisal decisions is also a crucial mechanism for implementing the monitoring activity described earlier. In addition, it is important that the records selected for preservation be packaged at the moment of transfer with the necessary information for their continuing preservation, including the terms and conditions of transfer, identification of the digital components to be preserved, and associated archival and technical documentation needed for their treatment. This is the information that is compiled and recorded during the various stages of appraisal and monitoring.

Thus, one may conclude that, with electronic records, the function of appraisal has changed in four fundamental ways: first, the appraiser must assess the authenticity of the records considered of continuing value; second, the appraiser must determine the feasibility of the preservation of the authenticity of the records; third, the appraisal decision must be made very early in the life of the records; and, fourth, the appraiser must constantly monitor the records of the creator and, if this were warranted by the changes that they have undergone, revise the appraisal decision. Are these changes of a methodological or of a theoretical nature? In other words, is the appraisal process required for electronic records a different way of doing the same thing or does it reflect a radical alteration of the nature of the appraisal function? I would say that the former statement is true and that appraisal theory has not changed: its purpose is still that of preserving a concentrated, essential record of the past that maintains intact all its archival characteristics of naturalness, impartiality, interrelatedness, uniqueness, and, most importantly, authenticity, without which records could not be trusted either as evidence or as sources of information. However, the methodological changes are quite radical and require that archivists be involved with the creators on an ongoing basis and walk the very thin line that separates a competent guidance to proper creation and maintenance procedures from outright interference in the making and keeping of the records. It is a

difficult balancing act, vital to the protection of the impartiality of the records, but it is possible to accomplish it if organizational, national and international policies, strategies and standards are issued to support the work of the archivist. At the moment, though, the greatest obstacle to the implementation of the new appraisal methodology is still presented by the traditional archival profession and its resistance to get involved in activities that it does not regard as archival. To overcome this resistance may require several years. It is hoped that in the process we will not lose a significant part of the documentary heritage of our time.

---

<sup>1</sup> Harold Naugler: *The archival appraisal of machine readable records: a RAMP study with guidelines* (Paris, UNESCO; 1983).

<sup>2</sup> For a review of the literature on the subject, see Luciana Duranti: "The thinking on appraisal of electronic records: its evolution, focuses and future directions," *Janus*, no. 2 (1997), 47-67. See also Terry Eastwood, Shadrack Katuu, Jaqueline Killawee: "Appraisal of Electronic Records: A Review of the Literature in English," *The long-term preservation of electronic records: Findings of the InterPARES Project*, Appendix 3, available at [www.interpares.org](http://www.interpares.org) (date of publication: 02/09/2002).

<sup>3</sup> Hilary Jenkinson: *A manual of archive administration* (Oxford, Clarendon Press; 1922), 8-9, 39.

<sup>4</sup> Throughout this paper, the terms archival document and record are used interchangeably. An electronic record is defined as a record that is made or received and used in digital form.

<sup>5</sup> The complete findings are published on the InterPARES project website at [www.interpares.org](http://www.interpares.org).

<sup>6</sup> Herman Kann: "A Note on the Authentication of Documents," *The American Archivist*, vol. XII, no. 4 (1949), 363.

---

<sup>7</sup> A digital component is distinguished from the extrinsic and intrinsic elements of form, which are those parts of a record that constitute its external appearance and convey the action in which it participates and the immediate context in which it was created.

<sup>8</sup> Documentary form comprises the elements of the record that constitute its external appearance and convey the action in which it participates and the immediate context in which it was created.