

Basic Concepts for Discussion

Record

According to archival science, a record is any document (i.e., recorded information) made or received by an individual or an organization in the course of a practical activity as a byproduct of and instrument for it, and set aside by such individual or organization for further action or reference or because of legal requirements.

The UBC Project established that an electronic record is a record made or received and set aside (i.e., created) in digital form. InterPARES 1 has stipulated that an electronic record is distinguished from other digital objects by virtue of the fact that it possesses a fixed documentary form;¹ a stable content; explicit linkages to other records within or outside the digital system, through a classification code or other unique identifier;² an identifiable context of creation; an author, an addressee, a writer and a creator;³ and an action, in which the record participates or which the record supports either procedurally or as part of the decision making process.

A record has *attributes*, which are its defining characteristics (e.g. name of author), *elements*, which are the constituent parts of its documentary form (e.g., a signature),⁴ *components*, which are its necessary parts (e.g., documentary form, context, content, archival bond),⁵ and *digital components*, which are digital objects composing the record that require specific methods of preservation (e.g., header of an e-mail, digital signature, image and text in a multimedia record)⁶.

One could surmise that interactive, dynamic and experiential systems cannot contain records, because the documentary form and the content lack fixity and stability. However, it might as well be argued that we can access digital objects in one of two modes: for the purpose of adding to them, modifying them or deleting from them, or for the purpose of using them as they are. Provided that it presents all the other requisites of a record, in the first mode, the digital object is a record in becoming (when re-stored and then retrieved for use as it is, it will be a record), while in the second mode, the digital object is a record. The fact that, once stored again, it may only be retrieved to alter it,

¹ A fixed form means that the binary content of the record, including indicators of its documentary form (i.e. its physical appearance and its articulation), are stored in a manner that ensures that it remains complete and unaltered, and that technology has been maintained and procedures defined and enforced to ensure that the content is presented or rendered with the same documentary form it had when it was set aside.

² This linkage is called “archival bond,” a term that refers to the relationship that a record has with the previous and the subsequent record of the same activity. The archival bond is originary, because it arises when a record is created, necessary, because every record has it, and determined by the function of the record within the activity producing it. It is incremental, as it grows with the accumulation of records, and it generates the network of relationships that constitutes a record’s documentary context.

³ The author is the person competent (i.e. having the authority and capacity) for issuing a record; the addressee is the person for whom the record is intended within its documentary form; the writer is the person responsible for the articulation of the content; and the creator is the person in whose fonds (i.e., the accumulation of all records made, received and set aside by one individual or one organization) the record exists.

⁴ The elements of electronic records are identified and defined in the Template for Analysis developed by InterPARES 1 (see http://www.interpares.org/book/interpares_book_j_app01.pdf).

⁵ The components of electronic records are identified and defined in Template 5, “When is a Record Created in the Electronic Environment” developed by the UBC Project (see <http://www.interpares.org/UBCProject/tem5.htm>)

⁶ This concept was developed by the Preservation Task Force of InterPARES 1 (see its report at http://www.interpares.org/book/interpares_book_f_part3.pdf).

does not change the fact that, for as long as its form and content remain fix and stable (even if only for one minute), the object is a record. After being changed and stored again, it will be another record.

Regardless, one of the research questions of Interpares 2 is indeed “what is a record in the systems under examination”: the response to such question will come from the analysis of case studies and will either confirm or discount the hypothesis above. Till such time, we will have to examine all digital objects produced by the systems that are studied and apply to them the archival definition of record provided here to see whether it would disqualify all objects in the system.

Reliability

Reliability refers to the authority and trustworthiness of a record as representation of what it is about, that is, to its ability to stand for what it speaks of. In other words, it is the trustworthiness of a record as to its content. It depends upon two things: the degree of completeness of a record’s form and the degree of control exercised over the procedure in the course of which the record is generated.⁷ Reliability, then, is linked exclusively to record making, although one could infer the reliability of received records on the basis of their participation in the relevant business procedure of the entity receiving it. However, reliability is the sole responsibility of the individual or organization making the record, and the lack of it cannot be blamed on the recipient of the record, notwithstanding the fact that the latter is the record creator.

Reliability is a relative concept: a record may be more or less reliable according to the degree to which the rules for making it have been respected.

Authenticity

Authenticity refers to the fact that a record is what it purports to be and has not been tampered with or otherwise corrupted. In other words, it is the trustworthiness of the record as a record. Authenticity is linked to the record's transmission,⁸ and to the manner of its preservation and custody. A document is authentic if it can be demonstrated that it is precisely as it was when first transmitted or set aside for preservation, and if its reliability, i.e., the trustworthiness it had at that moment, has been maintained intact.⁹ Thus, authenticity is a responsibility of both the record creator (i.e., the person who sets aside the records it makes or receives), and its legitimate successor (i.e., either the body acquiring the function(s) from which those records result—and the records themselves—or the archival body competent for the preservation of its records). Authenticity is protected and guaranteed through the adoption of methods that ensure that the record is not manipulated, altered, or otherwise falsified after its creation, either during its transmission or in the course of its

⁷ This concept was developed by the UBC Project and is discussed in its Template 7, “How is record created reliable in the electronic environment?” (see <http://www.interpares.org/UBCProject/tem7.htm>).

⁸ More specifically, authenticity is linked to the mode, form and status of transmission of a record. The mode of transmission of a record is the means by which it is delivered to the addressee; the form is the way it is received, and the status is whether it exists as a draft, an original or a copy.

⁹ This concept was developed by the UBC Project and is discussed in its Template 8, “How is an electronic record guaranteed and/or proven authentic?” (see <http://www.interpares.org/UBCProject/tem8.htm>).

handling and preservation, within both the recordkeeping system and the record-preservation system.

Thus, the units within the record creator and its legitimate successor which are competent for handling, maintaining, and preserving its records (made and received records) are accountable for their authenticity, while such responsibility affects the authors of the records, both those within the creator and those outside (the makers of the received records), only as their transmission is concerned.

Authenticity is an absolute concept: a record is either authentic or not authentic.

Records that the creator relies on in the usual and ordinary course of business are presumed authentic. However, digital information technology creates significant risks that electronic records may be altered, either inadvertently or intentionally. Therefore, in the case of records maintained in electronic systems, the presumption of authenticity must be supported by evidence that a record is what it purports to be and has not been modified or corrupted in essential respects. To assess the authenticity of an electronic record, the preserver must be able to establish its *identity* and demonstrate its *integrity*.¹⁰

The identity of a record refers to the distinguishing character of a record, that is, the attributes of a record that uniquely characterize it and distinguish it from other records. From an archival-diplomatic perspective, such attributes include: the names of the persons concurring in its formation (that is, its author, addressee, writer, and originator); its date(s) of creation (that is, the date it was made, received, and set aside) and its date(s) of transmission; an indication of the action or matter in which it participates; the expression of its archival bond, which links it to other records participating in the same action (for example, a classification code or other unique identifier); as well as an indication of any attachment(s) since an attachment is considered an integral part of a record. The attributes that establish the identity of a record may be explicitly expressed in an element of the record, in metadata related to the record, or they may be implicit in its various contexts. Those contexts include: its *documentary context*, that is, the archival fonds to which a record belongs, and its internal structure; its *procedural context*, that is, the business process in the course of which the record is created; its *technological context*, that is, the characteristics of the technical components of the electronic computing system in which records are created; its *provenancial context*, that is, the creating body, its mandate, structure, and functions; and its *juridical-administrative context*, that is, the legal and organizational system in which the creator belongs.

The *integrity* of a record refers to its wholeness and soundness: a record has integrity when it is complete and uncorrupted in all its essential respects. This does not mean that the record must be precisely the same as it was when first created for its integrity to exist and be demonstrated. When we refer to an electronic record, we consider it essentially complete and uncorrupted if the message that it is meant to

¹⁰ The concepts of presumption of authenticity and of authenticity as composed of identity and integrity were developed by InterPARES 1. See the *Authenticity Task Force Report* at http://www.interpares.org/book/interpares_book_d_part1.pdf and, more specifically, the *Requirements for Assessing and Maintaining the Authenticity of Electronic Records* at http://www.interpares.org/book/interpares_book_k_app02.pdf.

communicate in order to achieve its purpose is unaltered. This implies that its physical integrity, such as the proper number of bit strings, may be compromised, provided that the articulation of the content and any required elements of form remain the same. The integrity of a record 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 various contexts.

Authentication

While authenticity is regarded as a quality of the record, authentication is only a means of proving that a record is what it purports to be at a given moment in time. Authentication, in other words, is a declaration of authenticity in time resulting either by the insertion or the addition of an element or a statement to a record, and the rules governing it are established by legislation. It might enable the verification of authenticity after transmission of the record across space (either physical or virtual), but cannot allow for such verification when records are transmitted through time.¹¹

Accuracy

The concept of accuracy is not used in archival science or diplomatics. Therefore, it was not examined in the course of the UBC Project and InterPARES 1, which were guided by an archival and diplomatic approach and maintained an archival perspective throughout. This concept is now needed in InterPARES 2 because of its prevalence in the creation of scientific records. There is no working definition for the term accuracy that we can use until Domain 2 has developed its own for each area of activity. Therefore, for the time being, we can only rely on the English language meaning of the term.

According to the Merriam-Webster Dictionary, accuracy means **1** : freedom from mistake or error : **correctness** (**1** : conforming to an approved or conventional standard; **2** : conforming to or agreeing with fact, logic, or known truth; **3** : conforming to a set figure); **2 a** : conformity to truth or to a standard or model : **exactness** (**1** : exhibiting or marked by strict, particular, and complete accordance with fact or a standard; **2** : marked by thorough consideration or minute measurement of small factual details); **2 b** : degree of conformity of a measure to a standard or a true value -- compare **precision** (**1** : the quality or state of being precise; **2 a** : the degree of refinement with which an operation is performed or a measurement stated; **2 b** : the accuracy (as in binary or decimal places) with which a number can be represented usually expressed in terms of the number of computer words available for representation <double *precision* arithmetic permits the representation of an expression by two computer words>; **3** : **relevance**).

On the basis of the above definitions, an accurate record should be one that contains correct, precise and exact information. Accuracy of a record may also indicate or emphasize the absoluteness of the data it reports or its perfect or exclusive pertinence to the matter in question.

As mentioned above, accuracy is a very relevant concept in the context of scientific activities, although one could imagine it to have a similar significance in some artistic activities like music. Its meaning varies from a scientific discipline to another,

¹¹ This concept was developed by InterPARES 1. See the *Report of the Authenticity Task Force*, cited above, p. 3.

therefore this is one of the concepts that must be analyzed to assess its implications not only by comparing its meaning across areas of endeavour, but also within the same area.

While, as already stated, there is no corresponding concept in diplomatics and archival science, one might surmise that accuracy has no relationship to reliability as one could have a very reliable record that is not concerned with exactness, correctness or precision because of the nature of the matter it treats or because of its function in the activity in which it participates.