

Articles

Reliability and Authenticity: The Concepts and Their Implications

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Résumé

Cet article définit les concepts de fiabilité et d'authenticité ainsi que leurs rapports mutuels. L'article illustre aussi les éléments constitutifs de la fiabilité et de l'authenticité et prévient le risque de surestimer l'un des deux concepts aux dépens de l'autre et suggère finalement quelques pistes de recherches souhaitables pour les documents informatisés.

Abstract

This article defines the concepts of reliability and authenticity and their relationship, illustrates what makes records reliable and authentic, warns against the danger of emphasizing one concept over the other, and suggests the direction that research on electronic records should take.

Introducing a discussion of authenticity of private records, Robert-Henri Bautier explains that, since early medieval times, there has been a continuing attempt everywhere to find a pragmatic way of making people respect their obligations. In the beginning, some cultures chose the Roman way, according to which any action was recognized as having taken place and any obligation as existing if put into writing by a notary or public officer, signed with a name, a symbol, or a cross by the persons involved in the action, and countersigned by the writer. Other cultures chose the Frankish way, according to which actions and obligations were orally made in front of witnesses and represented by a chosen object (e.g., a piece of wood, a sprout, etc.). Later, if the need arose to prove the existence of such actions or obligations, they were recounted by the parties or their descendants in front of a royal judge, who would put the proceedings into writing and affix a seal to the resulting document.¹

In both cases, the records that were created were considered reliable because the persons issuing them were reliable, and could over time be considered authentic

because of the inclusion in them of elements difficult to tamper with, such as seals and special signs. In both cases, affixing personal seals to the records and preserving them in a secure place would not alone have been sufficient to ensure that the actions and obligations to which the records relate would have been considered valid in the future. Such measures would have guaranteed to posterity the authenticity of the records, but not their reliability. Reliability refers to the authority and trustworthiness of the records as evidence, the ability to stand for the facts they are about. To make this point clear, it is essential to examine the concepts of reliability and authenticity in some depth.

We consider a record to be a document made or received in the course of activity. As it takes part in some action, it is seen as evidence of it, that is, as its mirror and proof. The value of such evidence, in terms of validity and weight, depends on the RELIABILITY of the record. A record is considered reliable when it can be treated as a fact in itself, that is, as the entity of which it is evidence. For example, a reliable certificate of citizenship can be treated as the fact that the person in question is a citizen.

Reliability is provided to a record by its form and procedure of creation. The *form* of a record is the whole of its characteristics that can be separated from the determination of the subjects, persons, or places the record is about. A record is regarded as reliable when its form is complete, that is, when it possesses all the elements that are required by the socio-juridical system in which the record is created for it to be able to generate consequences recognized by the system itself.

The two most commonly required elements of form are the date and the sub- or super-*scription*. The date has the function of capturing the relationship between the person making the record and the information—or the action, if you will—contained in it, while the sub- or super-*scription*, which usually takes the form of a signature, assigns responsibility to that person for the content of the record. Both elements are meant to objectify the record so that it can be treated by any user as a surrogate of the action he or she observed or participated in.

The *procedure of creation* of a record is the body of rules according to which acts or portions of them are recorded. Some of these rules refer to records-makers, by establishing who is competent for signing what records, by giving responsibility to different persons for recording the same facts, or by requiring that the same fact or part of it be reported at the same time to different addressees. Other rules refer to the routing of the records, their handling in the course of their compilation and completion, and their filing, as this operation determines the record's documentary context. The more rigorous and detailed the rules, the more established the routine, the more reliable the records resulting from their application will be.

Degree of completeness and degree of control of the procedure of creation are the only two factors that determine the reliability of records. Reliability does not in any way depend on the status of transmission of the records. The status of transmission refers to a record's phase of development, that is, to whether it is a draft, an original, or a copy. One might object that it is commonly accepted that an original is more reliable than a copy. True. However, the reasons why this is so are that 1) an original has the maximum degree of completeness required for the specific

type of record and 2) it is subject to the highest degree of control in the procedure of creation. In fact, some originals are more reliable than other originals. While each and every original, to be considered such, must have the three characteristics of *primitiveness, completeness, and effectiveness*—that is, must be the first complete document capable of producing consequences—some originals are considered complete on the basis of fewer components than others, and are produced according to simpler procedures than others.² Compare a memo sent by a manager to an employee with a notarial affidavit! Or compare that same memo, personally signed by the manager and routed by the records office, with one sent directly by the manager to the employee's E-Mail address, without any specific control measure taken, such as the copying of the memo to the records office's electronic files or the request for acknowledgement of receipt to both the sender and the records office. The two memos are both original, but they have a different degree of reliability, as the information in the former may be safely taken as a fact and acted upon, while that in the latter should be verified. As a consequence, the two memos are assigned different weight in legal proceedings.

Draft documents are sketches or outlines of records, made for purposes of correction, and provisional in nature. Thus, a draft is incomplete by definition. Moreover, a draft is not generated by a *procedure* of creation but by a record-making *process*, that is, by a series of non-regulated motions aimed towards the accomplishment of one step of a procedure. Some drafts, however, such as those of some official records, present a high degree of completion, particularly if preceded by other drafts of the same record, dated and initialized, and subject to a routine of approvals. These drafts are often as reliable as the corresponding originals.

A copy is a transcript or reproduction of an original; thus, no record copy can exist if an original has not been issued in the first place. With copies as with originals and drafts, reliability depends on completeness and procedure of creation. A mere transcription of the content of the original without regard for its form and without the dating and attestation by the copying person—that is, a *simple copy*—is highly unreliable, while copies made directly from the original and signed by the author of the original are as reliable as the original (they are called “exemplifications” in England, but can simply be defined as *copies in the form of original*). Sometimes, a copy is more reliable than the corresponding original. For example, in Roman municipalities, written agreements between private persons were transcribed in public registers by the municipal officials; this public procedure gave the copies so created, called “*gesta municipalia*,” a high degree of reliability.³ In between the simple copy and the *gesta municipalia* there are many different types of copies having varying degrees of reliability. Among these, there is the “authentic copy.” Here we are introducing a new term, “authentic,” which derives its meaning from a concept quite different from that of reliability, the concept of AUTHENTICITY.

As already observed, a record is reliable when it can be treated as the fact of which it is evidence. By contrast, a record is authentic when it is the document that it claims to be. Proving a record's authenticity does not make it more reliable than it was when created. It only warrants that the record does not result from any manipulation, substitution, or falsification occurring after the completion of its pro-

cedure of creation, and that it is therefore what it purports to be. Thus, the authentication of the reproduction of a record, made by an official authorized to execute this function, provides such copy with the same force of the document it transcribes or reproduces, be it a draft, an original, or another copy, but also with its same degree of reliability. If the reproduced document could not be treated as a fact when created and in its original status, the authentication of its copy does not confer it this capability. By the same token, an original document declared authentic by a witness, or demonstrated so by the security of its transmission and by controlled record-keeping procedures, remains as reliable as it was when compiled. For example, an electronic message whose formal components are not predetermined, and whose creation is not procedurally controlled does not become reliable when electronically sealed or time stamped: it can be called an authentic record but cannot be treated as the fact it stands for, and therefore cannot be presumed *genuine*.

Genuineness is the closest concept to truthfulness. It is generally accepted by all literate civilizations that documents that are trustworthy (that is, *reliable*) because of their completeness and controlled procedure of creation, and which are guaranteed to be intact and what they purport to be (that is, *authentic*) by controlled procedures of transmission and preservation, can be *presumed* to be truthful (that is, *genuine*) as to their content. Thus, to those who make and preserve records, the two key concepts remain reliability and authenticity, as genuineness is embedded in them.

As mentioned earlier, the two concepts of reliability and authenticity must be kept intellectually separate. It cannot be denied, however, that some of the documentary components required for the completeness of the record and meant to support its reliability can constitute the basis for a *presumption* of authenticity, simply because of the difficulty of manipulating or forging them. These components are the attestation of the author, countersigner, and/or witnesses, as well as seals, special signs, and stamps affixed by delegates of the public authority. Certainly, in the mind of those who over time have defined the various documentary forms by determining the typical components of each one, the purpose of ensuring the reliability of the records has often been accompanied by a preoccupation with the ability of the user to ascertain their authenticity. As a consequence, these records officers or bureaucrats have devised—and required for the completeness of the records—documentary elements whose function is primarily to allow future users to verify the authenticity of the records.

This same process is taking place now with electronic records. We will encounter serious problems, however, if we allow our preoccupation with authenticity to overwhelm our concern with reliability. Authentic, unreliable records are of no use to present and future users, and this means that the primary thing we need to guarantee is the reliability of the records. In fact, the users of the records wish to establish the facts of the matter the records are about without participating in the facts themselves.⁴ Therefore, it is not sufficient for them to know that a record is the same that was placed in the file by the creator of the file itself, and that it has been preserved in its integrity. Neither is it sufficient to know that a record is the same as the one that was transmitted to its addressee, and has not been manipulated or

substituted in the course of the transmission. Users need to know that the record was made under controlled circumstances as part of the regular workflow, that it was made within a reasonable time after the occurrence of the facts it is about, and that it was generated by somebody who was competent to make that specific record, with either the duty or the direct interest to make it accurate.

What does all the above imply for electronic records? They exist in all three states of transmission: as drafts, originals, and copies.⁵ So far, the main preoccupation of both creators and users of these records has been to preserve their integrity, that is, to ensure the authenticity of the records as they pass through various transmissions over time. To this end, most records creators have focused on records communication and records-keeping rather than on records-making, and many have adopted security measures, such as electronic seals and digital time stamping.⁶ However, the easiness of electronic records creation and the level of autonomy that it has provided to records creators, coupled with an exhilarating sense of freedom from the chains of bureaucratic structures, procedures, and forms, have produced the sloppiest records creation ever in the history of record making. Too many persons and too many records forms generated in too many different contexts participate in the same transaction; too much information is recorded; too many duplicates are preserved; and too many different technologies are used. In other words; electronic records, as presently generated, might be authentic, but they are certainly not reliable.

Thus, instead of concentrating on ensuring the integrity of unreliable records, we should be concerned with ensuring the creation of reliable records. How can this be done? By establishing the most appropriate record forms for each type of action and defining its elements, by determining step-by-step controlled records creation procedures, and by assigning responsibilities for the creation of each record. Ultimately, the goal is to have restructured business procedures in which the record making and keeping function is a highly regulated and integral part of the usual and ordinary conduct of affairs. This will not be an easy undertaking. The record culture for too long entrusted to records officers has to be relearned by those who carry out the actions through the records (managers and employees alike); the public has to be educated in the use and scrutiny of a different-looking record; and the persons who are in charge of developing the new systems have to rediscover the meaning of abstract concepts such as accountability and record, and of course reliability and authenticity. To understand what has to be done, however, is the most important step towards accomplishing it!

Notes

- * This article derives from a paper presented at the Society of American Archivists' 58th annual meeting held in Indianapolis, Indiana on 7-11 September 1994, in the context of a session on the legal value of electronic records. It represents an initial effort to clarify two of the fundamental concepts on which the author and her co-investigator Terry Eastwood wish to base a three-year research project, funded by the Social Sciences and Humanities Research Council of Canada, on the preservation of the integrity of electronic records.
- 1 Robert-Henri Bautier, "L'authentification des actes privés dans la France médiévale," in Robert-Henri Bautier, *Chartes, Sceaux et Chancelleries. Études de Diplomatique et de Sigillographie Médiévales I* (Paris, 1990), pp. 269-278.

- 2 For a discussion of the concepts of original, draft, and copy, see Luciana Duranti, "Diplomatics: New Uses for an Old Science (Part I)," *Archivaria* 28 (Summer 1989), pp. 19-21.
- 3 Ernst Posner, *Archives in the Ancient World* (Cambridge, 1972), pp. 214, 219-221.
- 4 See Stanley Raffel, *Matters of Fact* (London, Boston, and Henley, 1979), pp. 17-19.
- 5 The status of transmission of electronic records is discussed in Luciana Duranti, "Diplomatics: New Uses for an Old Science (Part VI)," *Archivaria* 33 (Winter 1991-92), p. 10.
- 6 For a description of these technologies, see Barry Cipra, "Electronic Time-Stamping: The Notary Public Goes Digital," *Science* 261 (9 July 1993); Bryan Hayes, "The Electronic Palimpsest," *The Sciences* (September/October 1993); and Bruce Schneier, "Digital Signatures," *Byte* 18, no. 12 (November 1993).