

Authenticity: New Personas for Digital Media

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This panel approaches the problem of authenticity as the concept is evolving through technological practices. Most debates surrounding this evolution have proceeded from a naturalized definition of authenticity. This definition is largely founded on the printed word tradition and the principle that faithfulness to the written word is paramount, while stylistic modifications to the form of documents are acceptable.

This naturalized definition can be problematized using two different axes: (1) from textual to non-textual (e.g., audio-visual) documents; (2) from paper to electronic media.

In the first case, there are no general and stable conventions for distinguishing content from its formal manifestation. In the second case, the only stable measure of authenticity, that of bitwise integrity, (a) is too restrictive to deal with the inevitable logical format migrations that must occur for digital media to remain accessible; and (b) does not measure how the rendering process of the bitstream (e.g., on screen, on paper) conforms to the content of the document.

The papers in this panel will explore how new electronic documentary practices challenge the naturalized definition of authenticity, and chart how concepts of authenticity evolve in conjunction with such practices. The papers will suggest how new rules and conventions for defining authenticity may emerge in given areas of documentary practices — digitized medieval manuscripts, electronic contracts, XML-encoded documents — or from multidisciplinary research efforts.

Document authenticity: between replication and transformation

Bruno Bachimont

There is a strong relationship between the physical integrity of a document and its interpretability. As the history of writing has taught us, the interpretation space of a document is built on the basis of the document identity. When mankind elaborated logographic alphabets, it became possible to have an ortho-graphic transcription of a discourse that is, the exact (ortho) rendering (graphic) of what is said. If we know that we face the very content of a discourse, we can start interpreting it, elaborating ever new particular understanding of contents. Going back to the same content is the possibility condition of interpreting differently.

Today, we have to cope with digital documents, coding digitally contents. As with non-digital mediums, one needs some equivalence criteria, some ortho-coding digital scheme to characterize digital documents and make their interpretation possible. Document engineering is partly focused on this problem by looking for invariants that may define content objectivity. For example, XML distinguishes between the so-called physical structure and the so-called logical structure, the former being contingent to the rendering devices, the latter being considered to be the very content of document. Put another way, the different documents produced via XML tools from a unique XML logical structure are considered to be views of the same content.

But this point of view is misleading. The XML logical structure is only a particular view on content that is conventionally considered to define content: XML reifies the conventions coming from the writing tradition. One needs today to enlarge these conventions to take into account non-textual

documents. But, more precisely, one needs to consider the fact that reconstructed views of a document may deeply alter the structural and physical appearance of contents: interpretation as the singularization of a reader who builds herself as building its own reading, differences coming necessarily from her because content remains the same, is no longer possible. Digital writing is nowadays a philological problem rather than a hermeneutic problem: one needs to establish what we read before considering what it means. As a paradox, although there may be bitwise copies, which turn out to be useless to define document integrity and identity, digital writing changes our paradigm of reading because of computations that transform content. The very nature of digital documents is not their bitwise definition, but the set of transformations or computations they can support. We need a paradigm shift from an ortho-graphic writing to an ortho-computing digitization.

French notaries meets digital signatures — technologies for authentic digital writing *Jean-François Blanchette*

For much of its history, cryptography occupied a limited growth but highly stable niche market: protecting the confidentiality of diplomatic and military communications. In the early 1970s, the simultaneous emergence of a nascent market for securing electronic banking transactions, of a small academic community devoted to cryptographic research, and of a fundamentally new method for the deployment of cryptographic systems suggested the application of cryptographic methods to a much broader range of information security problems. In particular, Diffie and Hellman, the inventors of public-key cryptography, suggested that it offered the electronic equivalent of a ubiquitous technology, that of handwritten signatures, and could provide a function essential to an information society, that of ascertaining the authenticity of digital writing.

In the world of paper-and-ink documents, the practices by which the authenticity of writing is ensured and sustained over time involve a complex and interlocking network of materials, institutions, and procedures. In civil law countries, for example, document authenticity is ensured by recourse to a privileged witness (e.g., notaries), acting as representatives of the State, which grants such witnesses an economical advantage (monopoly, higher location in the hierarchy of proof law), while requiring they observe specific forms in order to diminish potential litigation. This presentation traces some of the aspects of the difficult harmonization of the time-honored practices underlying the notarial profession in France with that of largely untested digital signature technologies.

Medieval Manuscripts and their Digital Lives *Bonnie Mak*

With the advent of digital technology, major libraries, archives, and research institutions have

rushed to create on-line exhibitions that display their treasured artefacts. One of the most popular ways of showcasing a collection is to create images of objects and post them on the Web. Medieval manuscripts have been the subject of many of these recent projects in digitization, and yet scholars and readers alike are slow to embrace the new electronic resources. We will examine the reasons for this ambivalence, paying close attention to the notions of authenticity that underpin the digitization projects. Visual imitation of the books is often considered sufficient to replace the original objects themselves. In these cases, images that can be displayed with better resolution and higher-quality color are considered more faithful to the original artefacts. Research has correspondingly focused on improving the technology for image capture and rendering in an effort to generate more accurate, more realistic, and therefore more 'authentic' visual reproductions.

This paper shifts attention from the technological to the conceptual by asking whether an object like a medieval manuscript, which is so crucially tied to one form, can have an authentic copy in another form. That is, a fundamental part of the existence of the manuscript is its physical instantiation in the book medium. When this book is migrated to an entirely different platform, such as the computer, can the result be reasonably called authentic? By exploring this issue, we can perhaps arrive at a better understanding of various notions of authenticity, and how they may be applied in the digital environment.

The Need for a Document Theory

Jean-Michel Salaün

In order to clarify the concept of document in its transition to electronic form, we need a document theory. This theory couldn't be built without a multidisciplinary approach for two main reasons: 1) The concept belongs to a multidisciplinary field; 2) Knowledges are now too specialized and could not be embraced by a single researcher. We ought to share the expertises.

(1) A document has three dimensions: an anthropologic one — we have to be able to perceive the signs; an intellectual one — we must to understand the content; and a social one — we have the opportunity to share its proposals. These dimensions need to be approached from different disciplines. (2) Digital techniques have brought radical changes in each of these dimensions. But computer scientists, who lead the changes, couldn't analyze the true consequences of their

choices because they have not the tools to understand what they are really doing. Conversely, humanities or social sciences are not able to produce a lucid analysis because they cannot open the black box of techniques.

So we are all silent spectators or blind actors of mutations of documents that are not less than agreements between people, which establishes a part of their humanity, of their capability to live together and to manage their relationship, by representing a shared truth. The risk is to lost the agreements, and one of its first manifestation is the lack of confidence about the authenticity of the new artifacts we are still calling “documents.”