COMMUNICATING CONTEXT
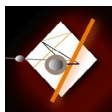## Libraries, archives, and museums in a connected world

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In today's networked digital world, humans and machines coexist as nodes in an ever fluid and evolving web of communication that is hyperconnected, shared, multilayered, concurrent, and multidirectional (Benkler, 2006; Shirky, 2010; Pesce, 2011). Traditionally, memory institutions, such as libraries, archives, and museums—concisely, LAM—have communicated the "official" view of history, privileging some stories, while marginalizing others (Schwartz & Cook, 2002). Social history and postmodernism have challenged this, calling for the inclusion of diverse voices (Cook, 2001; Ketelaar, 2001; Evans, 2007; Jimerson, 2007).

Today, communication signifies the flow of information among humans and machines. Only humans, though, can incre-

mentally and cumulatively contextualize the information they receive, transmit, store, or interpret at each step of the communication continuum in LAM—making it human, humanizing, and humanly relevant in the process.

Surely, metadata are also attached to records sent over by and among machines, but this is done in institutional settings, behind silos that most often do not converge, nor are interoperable (Zorich, Waibel, & Erway, 2008; Berners-Lee, 2010). Although information systems can transmit or manipulate vast amounts of data in lightning speed, without human interference these are untamed bytes that flow somewhere in the universe of networks. Only people, in fact communities (Bastian 2003), can discern connections and links that exist among disparate records that are often geographically dispersed, and in diverse formats.

In LAM settings, "communication" as a term should not merely be understood as increased access and dissemination through digitization. Such activities are today ubiquitous, and users have come to expect them. Instead, memory institutions should enhance communication of context through people, by facilitating the bridging of knowledge gaps through the creation of meaningful pathways (Dervin, 1998).

A knowledge gap is not simply lack of information. In fact, sometimes there is abundant information resting either in individuals' memories or in whole communities, which rarely gets included in library catalogs or archival finding aids. Linkages from record to record and, in a semantic web context, from data to data, can provide people with new tools for contributing their knowledge and for making sense

of the world. This fundamentally alters the way we *conceptualize*, *interpret*, and *interact* with our cultural heritage.

At the *conceptual* level, new epistemological approaches enhance and further established knowledge. The introduction of digital tools in humanities research, teaching, and publishing has given birth to new disciplinary approaches such as digital history and digital art history. These provide scholars and the public with alternative ways of accessing, researching, and presenting our cultural heritage through projects that offer multiple viewpoints and formats (Cohen, 2004).[1]

At the *interpretive* level, new technological affordances communicate meaning through interlaced, perpetual, multidirectional linkages. Beyond the traditional hyperlinked web, technologies such as linked open data,[2] the backbone of the semantic web, offer exciting opportunities for linking machine-readable heterogeneous data (Bizer, Heath, & Berners-Lee, 2009; Berners-Lee, 2010; Sherratt, 2009). Libraries all over the world release their bibliographic data as linked open data, allowing users to use them freely and repurpose them.[3]

At the *interactive* level, communication is not anymore a succinct, straightforward process, but one that presents a new, polyphonic comprehension of our world, with people taking part in crowdsourcing initiatives that promote greater contextualization of primary sources.[4]

These developments promote an enhanced communication among institutions, people, machines, and data, and create new realities—and expectations—in the cultural heritage sector. Living in a

world of pervasive social media, today's patrons and users have come to expect increased, seamless, and palpable user participation in contextualizing library, museum or archival holdings through contributing content and context (Oomen & Aroyo, 2011; Huvila, 2008).

In a world still defined by national borders, as expressed in policies and systems regulating the flow of information, archivists, librarians, and museum professionals' new role is to promote the unimpeded and unrestricted communication of knowledge globally. ■

Notes

[1] Some examples of such projects are: The Proceedings of Old Bailey (http://www. oldbaileyonline.org) contains a fully searchable edition of 197,745 criminal trials held at London's central criminal court, mashing them up with a 1746 map of London, survey, parish, plague, taxation, and archaeological records (http://www. oldbaileyonline.org/static/Project.jsp).

The September 11 Digital Archive (http://911digitalarchive.org/) contains "more than 40,000 emails and other electronic communications, more than 40,000 first-hand stories, and more than 15,000 digital images," allowing people to tell their stories, making those stories available to a wide audience, [and] providing historical context (http://911digitalarchive.org/about/index.php).

The Digital Sculpture Project (http://www.digitalsculpture.org/) uses 3D digital technologies to capture and present sculpture.

[2] "Linked Data," http://linkeddata.org/home; http://www.w3.org/wiki/LinkedData; http://www.w3.org/2005/Incubator/lld/

[3] Some examples: CERN library (http://thedatahub.org/dataset/cern-library-bibliographic-data); Libris, the joint catalogue of Swedish academic and research libraries (http://libris.kb.se/); German National Library (DNB) (http://www.dnb. de/EN/Service/DigitaleDienste/LinkedData/linkeddata_node.html); the Library of Congress (http://id.loc.gov/about/); Europeana (http://pro.europeana.eu/ linked-open-data).

4   Some examples are: the Australian Newspaper initiative by the National Library of Australia (http://trove.nla.gov.au/ndp/del/home) where users can correct the OCR'ed text of digitized Australian newspapers; the Old Weather project (http://www.oldweather.org) where users transcribe weather data from historical ship logs; or the New York Public Library's Map Rectifier project (http://maps.nypl.org/warper) where users can use the NYPL Map Warper tool for "digitally aligning ("rectifying") historical maps from the NYPL's collections to match today's precise maps."

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