

# Metadata for the Information Multiverse

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## Abstract

In today's Information Multiverse there are pressing societal, ethical and educational, as well as intellectual reasons why, rather than simplifying and reducing or streamlining, we should actually be complexifying and increasing our efforts to generate metadata that identifies, collocates, contextualizes, authenticates and enfranchises. Such metadata should not only draw upon, but should also simultaneously incorporate re-thinking of fundamental and long-established bibliographic and archival principles in light of the plural and increasingly post-physical nature of the Information Multiverse. Our ongoing research is modeling an Information Multiverse approach to metadata by identifying ways in which these complexified principles can be embedded in local, community and global (i.e., web) metadata infrastructures. Their underlying references to common concepts additionally open up the possibility of interoperability and re-use, and, outside the silos of professional/information fields, linking and navigation.

**Keywords:** archival description, bibliographic description, information multiverse, pluralization, semantic web

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## 1 Introduction

Canadian archival scholar Terry Cook suggests that over the past 150 years, the archival identity has been shifting across four different frameworks or mindsets that reflect the increasing complexity of the archival field's societal role: juridical legacy, cultural memory, societal engagement, and community archiving. He sees these as being cumulative rather than completely replacing each other. As a result, he argues, the archivist "has been transformed . . . from passive curator to active appraiser to societal mediator to community facilitator. The focus of archival thinking has moved from evidence to memory to identity and community, as the broader intellectual currents have changed from pre-modern to modern to postmodern to contemporary" (Cook, 2012). In a related vein, the Archival Multiverse has been proposed by an international group of scholars in archival studies as an overarching framework within which twenty-first century archival practice and scholarship should be situated. The Archival Multiverse is simultaneously locally and globally oriented and encompasses "the plurality of evidentiary texts (records in multiple forms and cultural contexts), memory-keeping practices and institutions, bureaucratic and personal motivations, community perspectives and needs, and cultural and legal constructs" (Pluralizing the Archival Curriculum Group, 2011).

Although these two recent and influential statements have emanated out of the archival field, we can extrapolate from them several key arguments that need to be more consciously factored into broader discussions about the nature and future development of information infrastructure in the digital world, as well as into the scope and responsibilities of the information professions. When we consider the plurality of all informational texts, practices and institutions, organizational and human motivations, community perspectives and needs, and cultural and legal constructs, we can also extend the concept of the Archival Multiverse to one of an Information Multiverse. The key arguments might be expressed as follows:

- Distinct societal and professional roles have emerged for particular information fields as a result of diverse and dynamic needs, cultures, technological developments, and political and intellectual trends. Some aspects of these roles continue to remain essential while important new aspects continually emerge that must be conceptualized and engaged.
- Power differentials and inequities are at work in every aspect and context of information creation, organization, access and use. Developers of information infrastructures must more directly acknowledge and address the negative consequences of such power dimensions, and actively support emancipatory information structures and practices while balancing competing considerations at and between local, community and global levels.
- The need for rich context becomes increasingly important as the volume of content online multiplies, and as that content is read both “along” and “against” the grain by diverse users and for a broad range of purposes.
- Pluralism and complexity are defining, and arguably the richest and most emancipatory, characteristics of the Information Multiverse. Professional information practices and infrastructures, however, tend to encourage homogenization, assimilation and decomplexification.

This poster reports on new conceptual work by the authors that is applying these arguments to *metadata* infrastructure, practices and use, and situating them within the framework of the Information Multiverse.

We argue that in today’s Information Multiverse there are pressing societal, ethical and educational, as well as intellectual reasons why, rather than simplifying and reducing or streamlining, these professions should actually be complexifying and increasing their efforts to generate metadata that identifies, collocates, contextualizes, authenticates and enfranchises. Such metadata should not only draw upon, but should also simultaneously incorporate re-thinking of fundamental and long-established bibliographic and archival principles in light of the plural and increasingly post-physical nature of the Information Multiverse. The fundamental purposes of bibliographic information organization are to find, collocate and educate. In archival information organization, the primacy of provenance and of hierarchical and collective archival description serve to contextualize and authenticate, employing differing levels of detail as judged appropriate or necessary. Taken together but re-articulated for a twenty-first century networked and globalized information context, they represent a powerful, but underexploited and under-complexified amalgam of approaches for generating niche metadata capable of strategically addressing the profound pluralism, power differentials and persistent inequities of the post-physical Information Multiverse, while also exploiting the high-level linking power of the Semantic Web.

Our ongoing research is modeling an Information Multiverse approach to metadata by identifying ways in which these complexified principles can be embedded in local, community and global (i.e., web) metadata infrastructures. Their underlying references to common concepts additionally open up the possibility of interoperability and re-use, and, outside the silos of professional/information fields, linking and navigation. We posit, therefore, that:

1. The existing and potential scope of each of these principles should be identified and articulated within a twenty-first metadata context as well as in response to critiques that have emerged from or regarding underempowered or disenfranchised communities. These critiques assert that bibliographic and archival descriptive standards express and propagate dominant cultures and values, and privilege prevailing concepts of users’ needs (Knowlton, 2005; Russell, 2006; Duff and Harris, 2007; Flinn et al., 2009). An example would be the various recent proposals to expand the principle of provenance. In part due to the networked creation of bureaucratic records and in part because of a movement to include and acknowledge more voices within the archive, the concept of provenance, often presented as a monolithic principle, has been deconstructed and problematized to acknowledge the complexities of authorship that were always present in records as well as those

resulting from the kinds of relationships and collaborations made possible by networking and encouraged by globalization. Both functional provenance and multi-provenance have been applied to address practically how digital records are being created in and across organizations and research endeavors, while co-creatorship and the closely related constructs of multiple simultaneous and parallel provenance have arisen out of archival theorizing (particularly in records continuum and postcolonial and gender studies research) about the genesis of records and how this should best be described (Hurley, 2005a and 2005b). These propositions argue that traditional notions of provenance are oversimplified. With their emphasis on a single creating entity, those notions fail to acknowledge that multiple parties with different types of relationships to each other can be involved in the genesis of records (Gilliland, 2012). The propositions maintain, for example, that subjects as well as creators of records should be acknowledged as participants in that genesis and that archivists have an ethical imperative to pursue descriptive mechanisms for representing both creator and co-creator worldviews.

2. Information professionals should make strategic decisions about when or under what circumstances there might be a compelling need to create rich or even alternate descriptions to address specific identified needs of particular underempowered or niche communities, e.g., through the use of pluralized access points, complex authority files that address co-creator roles, and bilingual descriptions; and when a higher-level approach, potentially supported by linked data might suffice.
3. In devising standards, best practices, regulations, and terminology for international implementation, developers need to focus less on getting everyone to do things the same way, and more on how to inter-relate diverse community practices and ontologies.

## 2 Conclusion

By identifying ways in which these complexified principles can be embedded in local, community and global (i.e., web) metadata infrastructures, their underlying reference to common concepts opens the possibility of interoperability and re-use, and, outside the silos of professional/information fields, linking and navigation. An Information Multiverse approach to metadata not only breaks down walls between information fields, it also provides a way to address power differentials and inequities across cultures and communities, and supports enhanced technological access provision. Moreover it advances the conceptualization of the semantic web by arguing that the legacy metadata based on these established principles and practices should be carried further into the new technological environment of linked open data, lossless as to the information provided. Strategies and methods for doing so, as well as enabling “dumbing-up” to simpler or less granular statements such as dublicore.org or schema.org in order to interoperate data content have already been researched and some solutions proposed (Dunsire, 2012; Dunsire et al., 2012). Moreover, research in and publishing of bibliographic standards and conceptual models in RDF (Resource Description Framework) has shown that the present ways of representing them for humans to read should be transformed in a way also for machines to process and infer the meaning of metadata that result from applying them (Willer and Dunsire, 2013). This process opens up the platform to rebuild the prevailing bibliographic and archival principles and concepts with the aim of meeting the plural and increasingly post-physical nature of the Information Multiverse.

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