# Assemblage and Diversity:

# Working with Incommensurability in Distributed, Emergent Knowledge Networks

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The problem of how to work with differing ways of knowing, with differing ontologies, is a central question to business, the sciences, IT, and for cultural institutions, such as museums, libraries, archives and other repositories. This is particularly relevant for any institution or technology that holds the task of assembling, collecting, representing, and displaying a set of objects that derive from differing times, places and traditions. It is recognized that these objects speak to traditions, communities, and social groups that are ontologically diverse, differing in ways that they identify and practice knowledge. For these ‘information institutions’ maintaining the coherence of the collection while still being ontologically diverse has become a key tension. The intellectual merit of this proposal is that rather than trying to mitigate or alleviate this tension, we aim to explore ways by which digital media systems can put this tension to productive and creative use. We evaluate the hypothesis that information systems can be created to support distributed knowledges and multiple ontologies, and that these systems can serve the multiple communities as well as contribute to the creation and sharing of emergent cultural knowledge.

Our proposal, involving the design, creation, and evaluation of a set of networked digital museums, serves as a solution to the dilemmas of the museum as 'centre of calculation', 'collector' and 'centre of broadcast' by seeking to consider how museums can work with digital technologies to construct distributed 'mutable mobiles'. We do this by sharing digital objects among relevant stakeholder communities and allowing these objects to travel (mobility) and develop emergent, often incommensurable, meanings (mutability). The system we shall create and evaluate will distribute objects held by five partner museums, all of whom have agreed to take part in our study. The objects shall be shared with three stakeholder ‘expert’ communities: a group of archaeologists, the Zuni indigenous community of New Mexico, and a set of museum curators from the five partner museums. These three communities shall share information with one another ‘as is’ via the network we shall develop, as explained further in the description.

The broader impact of this project is its contribution to a long-standing debate and intellectual inquiry into the nature of cultural knowledge, and how it is produced, represented, and circulated. It extends significant work conducted in standards development, digital libraries, and social studies of science, particularly focused on the question of working with ontologies and classifications that are culturally and discursively differentiated. The major scientific contributions of this research project are to:

* Contribute to ongoing research exploring different cross-cultural conceptions and understandings of objects that are held and circulated via new technologies
* Studying how local and multiple ontologies into the study of how new technologies can serve as agents of change for diverse communities, in particular indigenous communities.
* Articulate connections between diverse and incommensurable expert communities that without depending on top-down or reductive meta-information systems.
* Demonstrate a scalable model by which digital objects and community-authored ontologies may impact educational, social, and cultural life within each local expert community.
* Deepen the understanding of how digital object collections can sustainably interface with different expert and cultural constituencies, by embedding these resources into local knowledge networks, and then developing hubs and local information systems which emerge from different uses of the objects.

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