

My research interests lie at the intersection of cognition, culture and technology. I am interested in ontology, not as a logical formalism or system of categories, but rather as a phenomenological manifestation of cultural schemas. Ontology is a *philosophia prima* concerned with the theory of being, i.e., what exists. A "true" ontology would be one--and there would be only one--in which all things of existence and their relationships with one another were described in a single coherent and comprehensive treatise. The notion of ontology has been appropriated by natural scientists, and subsequently social scientists, and applied to specific domains, resulting in the notion of multiple ontologies.

The construction of ontologies by information scientists is an attempt to overcome the Tower of Babel problem (Fonseca & Martin, 2005) by providing a common dictionary of terms and definitions within a relationship (i.e., taxonomical) framework for knowledge representation that can be shared by different information-systems communities (Smith 2003). However, theories of being, of what exists, are not defined by a common vocabulary, rather they are dependent upon particular perspectives and ways of interpreting the world around us. What exists is dependent upon our cultural schemas and cultural identities, which serve to influence the semantics of our experience. Formal ontologies are problematic in that they simultaneously overspecify and decontextualize information, which in order to be meaningful must be adaptive in context. Ontologies constructed as logical formalisms will not work across cultural boundaries, and they work only in limited degree across individual or intracultural boundaries.

Rather than rely Aristotelian ontology-as-categorization and formal ontologies' structuring as logical formalisms, I draw upon Heidegger's (1927) phenomenological perspective. Heidegger's notion of *being-in-the-world* is one in which each of us is immersed in and never separate from an experiential context. This context is the ever-present background that shapes our semantic and ontological commitments to the world around us—helps us make meaning of what we perceive to exist. Moreover, we are always *being-in-becoming*, experiencing the world as emergent—dynamic, contextualized and with a personal historical perspective. It is this notion of *being-in-becoming* that allows me to link the notion of culture to the study of ontologies.

Current Research

Its role in the creation of meaning makes culture integral to the study of semantics and, consequently, the study of ontologies and information, communication and media technologies. Based on my understanding of ontologies as manifestations of cultural schemas and shaped by cultural identity, I am working on ways to make formal ontologies more adaptable and contextual through the use of folksonomic tags, i.e., create *schematic ontologies*. My dissertation research explores the use of tag sets as the ontic representations of the underlying ontological conceptualizations, focusing on the phenomenon of collaboration and the hermeneutic process of schema integration in an intercultural research context.

The initial goal of my research is to establish the link between cultural schemas and folksonomic tags as elemental to the understanding and creation of ontologies, by attempting to elicit tag sets from individuals with similar cultural profiles. The larger goal of this research is to provide the theoretical justification for integrating conceptualizations of culture and ontologies through the use of tag sets that reflect cultural schemas. My

intention ultimately is to creating a mechanism to enable the sharing of culturally schematic knowledge between and among diverse groups. Schematic ontologies based on cultural schemas would allow for the flexibility and adaptability needed to achieve that interoperability, possibly even if the paradigms of the cultures are incompatible or incommensurable.

Future Research

The expected results of my doctoral research will help to enhance not only the process of creating ontologies but also the quality of the ontologies created, as they will be more adaptive and more reflective of cultural contextualization. My research has significant potential impact in a variety of areas of inquiry:

INFORMATION INTEGRATION

The ability to understand and integrate a multiplicity of schematic ontologies will become an essential component of our human response to the global climate crisis. In a planetary context, information about the effects of climate change will come from a diverse array of sources, filtered and structured according to a diverse array of cultural schemas. Schematic ontologies will help to facilitate this information integration through better semantic interoperability.

SOCIAL MEDIA & SEMANTICS

The emergence of social bookmarking websites have allowed for the creation of folksonomies as alternatives to expert-created taxonomies. Through the introduction of culture to information science, and hence folksonomies, our research will open new avenues of research into tags and the tagging process. It will introduce a way for researchers to disaggregate folksonomies into tag sets specific to cultural groups, thereby allowing them to disambiguate the semantics of tags through the use of cultural schemas. It may lead to the modification of tagging systems such that they specifically include cultural information about the taggers or all researchers to devise ways of collecting already extant cultural information available elsewhere.

KNOWLEDGE REPRESENTATION & VISUALIZATION

Like the cultural schemas we develop through our *being-in-the-world*, schematic ontologies would be constantly evolving, allowing for a Gadamerian fusion of horizons and integrate information across domains, ultimately fulfilling the promise of interoperability among our machines and information systems. In other words, schematic ontology representations, structured and visualized using information systems, would provide the foundation for the beginnings of hermeneutic discourse involving varying cultural perspectives around a phenomenon of interest.

References

- Fonseca, F., & Martin, J. (2005). *Play as the Way Out of the Newspeak - Tower of Babel Dilemma in Data Modeling*. Paper presented at the Twenty-Sixth International Conference on Information Systems: Philosophy and Research Methods in Information Systems, 2005.
- Heidegger, M. (1927). *Being and Time* (J. Macquarrie, E. Robinson, 1962 trans. ed.). New York: Harper and Row.