



Building Ontologies for Humanities and Social Sciences

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An initial agenda

- What is an ontology?
 - “An ontology is one person’s view of domain knowledge ...”
 - “An ontology is a shared specification of knowledge”
 - “there’s nothing new about ontologies ... not really ... people in information science ... librarians ... they’ll tell you they have always been doing this kind of thing. The problem is scalability.”

An initial agenda

- How might ontologies help social scientists advance their research?

"We design the ontology so the computer can reason with it. It is entirely plausible that you might get unanticipated results- you can discover relationships that you otherwise wouldn't discover ... with the gene and plant ontologies, people saw very quickly what the uses might be."

- But, is knowledge in the social sciences too fluid and contested, are communities of practice too diverse, for formal approaches to knowledge representation to be feasible?
 - How would change be managed?
 - Where would the effort come from?
 - Are there alternatives to more formal approaches?

An initial agenda

- How are ontologies developed?
“there are a lot of poor quality ontologies out there - any individual can write one.”
- Who should be involved and what's the best way for them to work together?
 - Domain experts, computer scientists, end users ..?
- How would we deal with disagreement and conflict?
“... if there was real controversy, real conflict, you'd just have to build two different ontologies.”
- What's the right technical strategy?
“If you think about something like an ontology for human disease, we don't know whether one ontology or several is the right solution ... one large ontology is incredibly hard to maintain.”
- Do we have the right languages, tools, user environments?

Discussion topics

- Do the social sciences need ontologies?
 - If not, why not? We already have them
 - What do we mean by ontology? Machine assisted reasoning about knowledge representations.
 - If yes, what for? What value does it add? Leveraging community knowledge; data discovery, sharing, linking ... analysis?
 - What is the killer app (e.g., gene ontology) for social sciences? The literature search; evolution rather than revolution? Integration of information from diverse sources;
- What is special about social sciences? Different positions on the nature of social enquiry.
- What are the barriers?
 - A little semantics goes a long way but how much is sufficient? Avoid domain specific knowledge?
- Can we foresee the likely impacts on social science research practices?
 - What is the social science research process, knowledge cycle? Do we trust computational approaches to sociology? Data mining for knowledge discovery? Pattern matching.
 - Does social science face a data deluge?
 - How might impacts vary across disciplines?
 - Is technology methods-neutral?

Discussion topics

- How can social sciences help the e-Science community build better ontologies?
 - Are there right ways to build ontologies?
 - What are the hard problems in ontology development and use? What are the barriers, how do we make the tools more usable?
 - How do we engage users, communities and when?
 - How much incentive is sufficient?
 - Can we short-cut the process?
 - How do we manage evolution?
- What are the likely impacts on scientific research practice?
 - Data-driven methods?
 - Is reliance on formal knowledge representations (and their computationally-derived results) dangerous?

And finally ...

- Badges please
- Evaluation form
- Thanks for coming