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1. Introduction

- The emerging fields of digital humanities and cultural analytics have not seen widespread adoption within the context of religious studies.
- The theoretical lenses provided by religious studies offer important opportunities for computational methods.
 - 1) Religious studies has long grappled with themes highly relevant for our increasingly digital worlds such as the adoption of beliefs, formation of identities, etc.
 - 2) The cross-cultural perspectives taken in religious studies are not confined to the study of religion in a strict sense, but are relevant for the study of culture more broadly.
- Broad goals of this work:
 - 1) Demonstrate the usefulness of emerging methods from the computational study of culture for a religious studies context.
 - 2) Demonstrate the usefulness of religious studies' theoretical lenses for developing novel methods for the computational study of culture.
 - 3) Demonstrate the usefulness of this transdisciplinary work for broader study of culture beyond religion.

2. Cross-Cultural Comparisons

- Three dimensions for cultural comparison:
 - 1) Thematic
 - What discursive themes bridge or distinguish cultural corpora?
 - Methods based in part on Klingenstein et al. (2014)
 - 2) Dynamic
 - How conceptually explorative or exploitative are cultural corpora?
 - Methods based in part on Barron et al. (2018) and Murdock et al. (2017). See recent usage for political systems in Stine & Agarwal (2019).
 - 3) Structural
 - What similarities/differences exist between cultural corpora after accounting for lexical differences?
 - Methods are believed to be novel and currently under development.
- Within each dimension of comparison,
 - topic models used to reduce dimensionality of a cultural corpus into broader patterns of discourse;
 - information theory utilized to interrogate relationships among corpora within semantic space of topic models.

3. Structural Comparisons

- Lexical vs grammatical differences between cultures:
 - Lexical differences—specialized vocabulary exists among the cultures that distinguishes or unites them. More surface-level, aesthetic features.
 - Grammatical differences—cultural level underlying lexicon corresponding to deeper structural elements of a culture. Closer to the underlying worldviews of a culture.
- Motivating work from religious studies:
 - Prothero (1995)—explores the notion of “Protestant Buddhism” in which a Buddhist lexicon is set upon a fundamentally Protestant grammar.
 - Deitrick (2003)—argues that American Engaged Buddhism represents a Buddhist lexicon coupled with a liberal Christian grammar with respect to its conception of suffering.
- Topic mapping approach: How predictably does one model “interpret” another?
- Modified corpus approach: How similar do the discourses become as lexical terms are removed?

4. Computational Comparative Religion and Reddit

- Discussion text collected from various religion-oriented English-language communities on Reddit (currently 20 communities).
- Discussion text will likely not be representative of broader religious traditions, but of specific online communities.
- Several communities have a textual history of over a decade.
- Useful testing ground to implement comparisons.
- Lessons learned in this arena will inform the application of these methods outside the context of religion.

5. Challenges and Evaluation

- Cultural comparisons do not correspond to fixed “ground-truth” relationships, but are contingent on a particular lens dictated by a particular methodology.
- Therefore, evaluation requires nuance in constructing evidence-based arguments.
- Metrics used in comparisons are relative; e.g. the distance between A and B is meaningful relative to both of their distances to C (and ideally others).
- The comparative framework underlying the structural dimension is abstract and therefore may be operationalized in a variety of manners.
- Overall effective evaluation will require careful reasoning, constant checking of the data to confirm intuition, and the input of subject matter experts.

6. Relevant Work

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Collaborators:

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- James E. Deitrick (University of Central Arkansas – Department of Philosophy and Religion)