

Rhetorical Figures, OWL, and the Challenges of Ontology

Computational Rhetoric Workshop

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What is a computational ontology?

- **Ontological engineering** is used in modelling a domain:
 - Taxonomies of objects and relations between them.
- In a **formal** ontology, relations have precise semantics, e.g.,:
 - Hypernymy/hyponymy—*IsA*.
 - Meronymy—*PartOf*.
- **Description logics** used for many knowledge representation languages:
 - Descriptions of concepts (classes) and roles (relations).
 - Definitions of individuals (instances).
 - **Subsumption** (*IsA*) orders hierarchies of concepts and roles.
- **OWL** (Web Ontology Language) based on description logic.
 - Very commonly used knowledge representation language.



Why consider an ontology of rhetorical figures?

- Figures can be observed as related by familiar semantic relations, e.g., hyponymy/hypernymy, meronymy, contrast, . . .
- **Ploche**: The repetition of a lexeme or lexemes.
 - *O villain, villain, smiling, damned villain!*
- **Epanaphora IsA Ploche**: The repetition of a lexeme or lexemes at the **beginnings** of successive phrases.
 - *To you must go the credit for this, to you are thanks due, to you will this act of yours bring glory.*
- **Anadiplosis PartOf Gradatio**: Gradatio is an iterated series of interconnected anadiploses.
 - *He who controls Berlin, controls Germany, and he who controls Germany, controls Europe, and he who controls Europe, controls the world.*



Using OWL to represent rhetorical figures

- What works well:
 - Representing class/subclass (*IsA*) relationships among figures.
 - Representing properties of figure classes.
 - Defining individuals (i.e., instances of figures).
 - Automatically detecting inconsistencies.
- What doesn't work well (or at all):
 - Sequence.
 - Indexing.
 - Position.
 - Identity.
- Demo.

