The RhetFig Project: Computational Rhetorics and Models of Persuasion

Chrysanne DiMarco
Cheriton School of Computer Science
and Department of English
University of Waterloo
Waterloo, Onario, Canada

Randy Allen Harris
Department of English
University of Waterloo
Waterloo, Ontario, Canada

We argue, reason, cajole, and persuade — we deploy rhetoric — because we are social animals endowed with a symbolic mode of thought and communication who seek to shape our social environment, to compete, and to cooperate. As rhetoricians, philosophers, and semiologists have regularly noticed, some patterns of argumentation and cajolery are more successful than others. These patterns of usage — collectively known as rhetorical figures — include both syntactic and semantic patterns, but it is the schemes (e.g., alliteration (word-initial consonant repetition), assonance (vowel repetition), isocolon (parallel syntax and prosody), epanaphora (clause-initial lexical repetition), and several hundreds more) that most readily lend themselves to formalization and codification in computational models. The importance of rhetorical figuration in modelling aspects of argumentation and persuasion in natural language systems cannot be overstated: figuration is linguistically, and therefore cognitively, inescapable.

The RhetFig Project at the University of Waterloo has undertaken to develop a formal ontology of rhetorical figuration for use in both linguistic analysis and computational application. We believe incorporating rhetorical figuration into natural language systems will have profound implications. Figuration is universal because it reflects the way our brains percolate and process – most obviously, perhaps, in the overtly purposive use of figures. The traditional literary purpose, generating aesthetic pleasure, is best known (poetry and fiction, myths and prayers, songs and jokes, are highly figured, in all languages and all cultures). But mnemonic formulas, proverbs, oral traditions, children's literature, marketing – in short, any linguistic configuration serving purposes in which mental characteristics like attention, learnability, and recollection are at a premium – follows one or several grooves that rhetorical theorists in the classical and early-modern periods identified with rhetorical figures. When we look now to psychology, a remarkable degree of overlap between these figurative grooves and the organizing principles of cognition (comparison, contrast, symmetry, repetition, incrementation, and the like), the insight that motivates this project is unmistakeable.

In this talk, we will describe the work of the RhetFig Project, which has so far included the following:

- Development of a comprehensive theorized ontology of figures, the first ever based on cognitive principles
- Computational applications of the ontology (e.g., automated detection and classification of figures in social media, rhetoric-based metrics for text summarization)
- Investigation of epistemic topoi for linguistic annotation).