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Synonymy and Lexical Choice



# Near-Synonymy and Lexical Choice

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## Abstract Authors

We develop a new computational model for representing the fine-grained meanings of near-synonyms and the differences between them. We also develop a lexical-choice process that can decide which of several near-synonyms is most appropriate in a particular situation. This research has direct applications in machine translation and text generation.

We first identify the problems of representing near-synonyms in a computational lexicon and show that no previous model adequately accounts for near-synonymy. We then propose a preliminary theory to account for near-synonymy,

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relying crucially on the notion of granularity of representation, in which the meaning of a word arises out of a context-dependent combination of a context-independent core meaning and a set of explicit differences to its near-synonyms. That is, near-synonyms cluster together.

We then develop a clustered model of lexical knowledge, derived from the conventional ontological model. The model cuts off the ontology at a coarse grain, thus avoiding an awkward proliferation of language-dependent concepts in the ontology, yet maintaining the advantages of efficient computation and reasoning. The model groups near-synonyms into subconceptual clusters that are linked to the ontology. A cluster differentiates near-synonyms in terms of fine-grained aspects of denotation, implication, expressed attitude, and style. The model is general enough to account for other types of variation, for instance, in collocational behavior.

An efficient, robust, and flexible fine-grained lexical-choice process is a consequence of a clustered model of lexical knowledge. To make it work, we formalize criteria for lexical choice as preferences to express certain concepts with varying indirectness, to express attitudes, and to establish certain styles. The lexical-choice process itself works on two tiers: between clusters and between near-synonyms of clusters. We describe our prototype implementation of the system, called I-Saurus.

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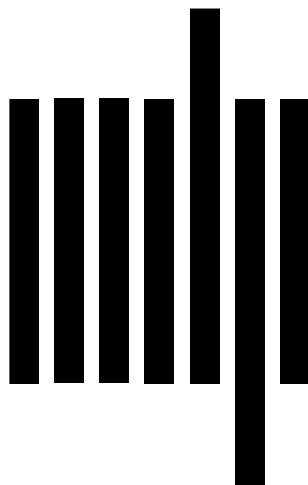
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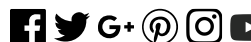
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