

Still Looking for Structural Complexity Effects in Lexical Concepts

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The nature of the representation of concepts is a major issue in the cognitive sciences arena. Most, if not all, linguistic analyses of lexical concepts point to a decompositional view, based on distributional arguments and cross-linguistic data. Lexical-conceptual representations are thus said to be complex structures composed of semantic primitives and to be specified at some cognitively abstract (or linguistically "deep") level of representation (see, e.g., Jackendoff, 1990). Although this has been a pervasive assumption in the history of linguistics, there have been very few attempts to investigate it experimentally; and in all of them, researchers have failed to provide support for the decompositional approach (see Kintsch, 1974; Fodor, Fodor & Garrett, 1975; Fodor *et al.*, 1980; Gergely & Bever, 1986).

In this paper, we present new data and arrive at an old conclusion: Lexical concepts do not show structural complexity effects. The series of experiments reported here show that the representation of causative constructions appears to be no more complex than "simple" transitive constructions. The data were obtained with a new on-line technique --masked priming of a word probe (MPWP)-- which was tested to register other distinctions between structural representations of classes of verbs.

In the experiments that employed the MPWP technique, subjects were presented with a sentence, followed by a forward masked prime word (the uninflected form of the verb) and a target word (the noun object) on which they performed a probe task. Priming effects were taken to reveal the structural distance (relatedness) between subject and direct object in the underlying representation of the sentences. There were two main comparisons between classes of verbs (see Fodor *et al.*, 1980). In the Expect vs. Persuade comparison, reaction times to noun probes were faster in the Expect class than in the Persuade class ($t[184]=3.77$, $p<.001$). In the Causative vs. Transitive comparison, however, there was no significant difference between RT's to probes in the two types of constructions ($t[184]=0.884$, $p=.376$).

In a separate set of experiments, using two variants of the "relatedness intuitions" paradigm (Levelt, 1970), we obtained effects similar to those obtained by Fodor *et al.* (1980), suggesting that our results are consistent across materials and techniques.

Although the results reported here are preliminary, they suggest the following theses, discussed in the conclusion of the paper: Lexical concepts are not structurally complex mental entities; and the compositionality of mental representations does not imply the decomposition of lexical concepts. Finally, the methodological moral drawn in the paper is that the linguist's distributional arguments and assumptions on mental representations ought to be subject to the same constraints as those imposed in other empirical cognitive sciences. And under the psycholinguistic experimental paraphernalia, lexical concepts do not appear to decompose.

References

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