

Do concepts decompose? Evidence from a memory-for-propositions task

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Theories of verb-semantic representation have long maintained that lexical causative verbs such as *kill*, *boil*, or *drain* are represented by complex semantic templates encoding at least two predicates (e.g., Jackendoff, 1990; Levin & Rappaport-Hovav, 2005), one denoting the agent's causative act, and another, the change of state in the affected object. Although theories vary with regards to how these semantic components are characterized, what is common is the idea that a single, morphologically simplex verb might encode semantically at least two predicates (e.g., *kill* is represented as [[X ACT] CAUSE [Y BECOME<DEAD>]]).

We investigated the causative complexity hypothesis by employing a memory-for-propositions task (Kintsch, 1974, Ch. 7), which was shown to be sensitive to semantic rather than sentence-surface complexity. In his studies, Kintsch maintained that propositions—operationalized as truth-bearing units of information— could be singled out from surface structure, according to recall performance: independent of sentence length, a sentence of greater propositional complexity was harder to free recall. Thus, *the travelers noticed a restaurant* and *the excited audience applauded* would have a similar surface structure of three content words but a different propositional complexity, with the former conveying one proposition (NOTICE[TRAVELERS, RESTAURANT]) and the latter conveying two (APPLAUD[AUDIENCE] & EXCITED[AUDIENCE]).

The present study applied Kintsch's operationalization of propositions to verbs, with the assumption that if lexical causatives decompose, they should convey a greater propositional complexity and be harder to recall than simple transitives. Holding surface structure constant, we found that sentences with lexical causatives (*The maid drained the tub*) were recalled no differently from simple transitives (*The maid examined the tub*), but recall performance was greater for them when compared to sentences with morphological causatives (*The maid sanitized the tub*), which encode causation explicitly in their morphology. This contrast could not be attributed to morphological and sentence surface alone, as we also found no difference in recall between morphologically simplex verbs (*examined*) and complex ones (*re-examined*). However, the difference between simple transitives and morphological causatives supports the effectiveness of Kintsch's design in isolating propositional complexity. Additionally, we found that sentences with lexical causatives were recalled better than periphrastic causatives (*The maid caused the tub to drain*), verbs that express an explicit causative form and supposedly represent the same semantic template as their lexical counterpart. Results suggest that the semantic complexity of verbs is a function of their surface morphological complexities, without predicate decomposition. The lack of decomposition effects points to an atomistic view of conceptual representation (e.g., Fodor, 1998).

References

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