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The Role of Salience in Conceptual Combination

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Strategies of Conceptual Combination

In cognitive psychology, one recent thrust of research has investigated how people interpret novel noun-noun combinations (Murphy, 1988; Wisniewski, 1996, 1997). One use of such combinations is to allow people to represent novel concepts and to subcategorize items without having to use more complicated constructions such as relative clauses, post-nominal modifiers, or prepositional phrases.

One of the primary questions surrounding noun-noun compounds is how these compounds are interpreted. The strategies used, and the types of information over which these strategies operate, remain a matter of debate. Two general strategies of conceptual combination have been postulated in recent literature: property mapping and relation linking (Wisniewski, 1996, 1997). In the former, one or more properties or attributes of the modifier concept are mapped to the head concept, so a **leopard sparrow** might be interpreted as a sparrow with spots. In the latter, some thematic relation is postulated between the two concepts, leading perhaps to a sparrow which rides on a leopard's back.

Current Investigations

The current experiment attempted to investigate further the extent to which these two strategies come in to play in the interpretation of noun-noun combinations. Furthermore, within the strategy of property mapping it was assumed that if there is a highly salient feature on the modifier concept (i.e. **spots** for leopard) then this feature is likely to drive the interpretation of the combination. If there are no highly salient features then readers might be more likely to begin the search for plausible relations between the two constituents.

300 words were normed for salience. From these, 20 high salience and 20 low salience words were selected from the two ontological categories of natural kinds and artifacts. These 80 words were then paired to construct 8 groups of combinations: high and low salience modifiers and heads within artifacts and natural kinds (HH, HL, LH, LL). A total of 160 combinations were interpreted by 20 subjects.

It was hypothesized based on previous research (Wisniewski, 1996, 1997) and on lexicalized animal names, that more property mapping interpretations would be observed for natural kinds than for artifacts and vice versa for relation linking. Furthermore, for combinations with highly

salient features on the modifiers, property mapping was expected to be driven by the salient feature. For combinations with a high salience head and a low salience modifier, some interference was expected from the salient feature on the head. For combinations with no highly salient features more relation linking interpretations were expected.

Natural Kinds

The most property mapping was found in the two conditions which had high salience modifiers (HH, HL). Furthermore, property mapping was driven by the salient property of the modifier. For combinations with low salience modifiers (LH, LL) there was less property mapping, that property mapping was not driven by salience, and there were a greater number of relation linking interpretations relative to property mapping when compared with the (HH, HL) combinations. Finally, for the LH condition, there was some interference from the salient feature on the head in that more switching errors were produced in this condition.

Artifacts

For artifacts, much the same pattern holds. As expected, more relation linking was observed for artifacts overall. There was more property mapping for HH and HL combinations, and this strategy was again driven by the salient features. Relation linking was more common than property mapping for these two conditions with low salience modifiers (LH, LL). Again, there were more switching errors in the LH condition.

Conclusions

Overall, it appears that salience is having an effect on conceptual combination interpretations, implying that salient features may well provide at least one fairly informative cue on which to base interpretations of these combinations in the real world.

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