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The development of interpretations for novel noun–noun conceptual combinations during the early school years

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Abstract

This research investigates issues surrounding early school children's use of the similarity between head and modifier terms in deriving interpretations for novel noun–noun conceptual combinations. In these experiments, 6- and 9-year-olds and adults were asked to formulate interpretations of similar and dissimilar conceptual combinations. Both children and adults were sensitive to the similarity aspect of conceptual combinations, although the children had some difficulty with the property interpretations that high-similarity combinations require. Next, we examined 40 popular children's books for the presence of noun–noun conceptual combinations. Adult participants provided interpretations for these combinations and rated the similarity of the head and modifier nouns. Results indicated that there were few high-similarity combinations and few combinations requiring property interpretations, suggesting that children have limited exposure to highly similar combinations and property interpretations. Further analysis of children's interpretations indicates that they may have difficulty in selecting and integrating properties of the modifier onto the head, a process required by property interpretations.

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Introduction

Conceptual combination is the merging of two concepts in a way that can result in a novel semantic entity. Novel conceptual combinations are the focus of our research, but conceptual combinations are very common in written and spoken discourse. For example, in a sampling of the first 20 pages of 10 children's early chapter books, we found 124 noun–noun conceptual combinations that included common combinations, such as *city kid*, *refrigerator door*, *food reward*, and *circus grounds*, as well as some novel combinations, such as *cave hole*, *paper bag turkeys*, *marsh hawk*, *mind powers*, and *mud monsters*. However, we are only beginning to learn about the principles that apply to combining word meanings, and currently we know almost nothing about the development of this process in children.

According to Wisniewski (1997a), people create novel conceptual combinations for a variety of purposes, including (a) to designate new things (e.g., specifying a *microwave pancake*, instead of just a plain *pancake*, may be an indicator that the user is talking about some new kind of pancake with unique characteristics compared with a standard pancake), (b) to designate temporary relations between concepts (e.g., if we were to tell you to put the item in the *flour bowl*, you might be able to figure out that we are referring to the bowl with the flour currently in it rather than the other bowls on the table), and (c) to efficiently refer to some ambiguous item in the conversation or text (e.g., "Put it in the *flour bowl*, not that bowl!"). Knowledge of how people understand conceptual combinations is important for a full understanding of language comprehension (Gagne & Shoben, 1997; Gerrig & Murphy, 1992; Springer & Murphy, 1992) and has implications for theories of concept representation (Cohen & Murphy, 1984; Hampton, 1987, 1988; Markman & Wisniewski, 1997; Medin & Shoben, 1988; Murphy, 1988, 1990; Smith & Osherson, 1984; Smith, Osherson, Rips, & Keane, 1988). Moreover, conceptual combination has been implicated in the process of creative thought, both ordinary and extraordinary (Ward, Smith, & Vaid, 1997). Thus, by learning about conceptual combination, we learn not only about a common linguistic process but also about a process fundamental to our linguistic creativity.

There are two types of conceptual combinations on which we focus in the current research: property combinations and relational combinations. In a *property combination*, a property of the first word in the combination is selected to be carried over to the second word; for example, with *elephant garlic*, one carries over the size feature of an elephant to create a version of garlic that is large in contrast to other types of garlic. However, this property is modified somewhat to fit the context of the head noun; that is, *elephant garlic* is certainly not as large as an elephant. Thus, property interpretations are thought to involve the construction of a new meaning (Wisniewski, 1997a). A *relational combination* merely establishes some kind of unique relation between two words; for example, a *city kid* is a kid from the city.