

## THOUGHT WITHOUT NAMING

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Horne and Lowe provide a hypothetical account of how the behavior of naming develops from early infancy onwards, and how once acquired by the child, naming brings about functional transfer of behavior across members of stimulus classes. Their work draws heavily upon a great deal of empirical developmental research and firsthand naturalistic observation. The naming approach shows promise for furthering our theoretical understanding of language acquisition, and has practical implications as well. The authors are to be commended for their efficiency in identifying an important body of literature on language development and for applying known concepts and principles from the behavior-analytic literature to explain the acquisition, development, and function of naming. This insightful and challenging approach, however, presents several problems.

Given Horne and Lowe's ambitious claims and conclusions, several important issues need to be addressed. Horne and Lowe claim that several functional classes of verbal behavior, including tacts, mands, and intraverbals, are all variants of naming. Moreover, they propose that naming accounts for many phenomena including symbolic behavior, categorization, meaning, referencing, and rule-governed behavior, and that naming is a prerequisite for passing stimulus equivalence tests. But just like rule-governed behavior, the naming hypothesis raises at least two intriguing questions. First, according to Horne and Lowe, naming appears to involve a higher order behavioral relation that is both evoked by,

and itself evokes, classes of events. However, the questions of whether verbal behavior that is evoked by classes of events depends on the young child's ability to evoke classes of events or vice versa ("*speaker-listener* within the same skin," p. 189), and of whether these two functions actually interact, both are still unknown and await empirical investigation. Furthermore, whether these two functions (or abilities) need to be established in the child's repertoire for the "derivation" of "novel" stimulus-response relations (classes) and for functional transfer of behavior across stimulus classes is questionable.

Infants can understand some symbolic word meaning (listener behavior) as early as 6 to 8 months after birth, and their receptive recognition vocabulary often rises to over 100 words by the first birthday (Bzoch & League, 1991). Expressive syntactic development (speaker behavior), however, does not usually occur until after 18 months. With an infant having only a large receptive recognition vocabulary, it is conceivable that functional transfer of behavior across members of stimulus classes can occur even long before expressive naming develops. There is evidence that infants first learn to form stimulus classes, learn to categorize objects, and understand the meaning of actions or events before they learn to name them (e.g., Cohen & Carey, 1982; Gelman & Taylor, 1984; Gopnik & Meltzoff, 1992; Katz, Baker, & MacNamara, 1974; Lifter & Bloom, 1989; MacNamara, 1972; Merriman, Schuster, & Hager, 1991; Mervis, 1987). In what follows I offer some research examples that support this view.

*Processes Preceding Naming*

Several studies by cognitive as well as behavioral developmental researchers support the argument that concept formation, meaning, referencing, categorization, and equivalence precede naming. Although these findings have been characterized mostly in terms from other interpretive traditions, which are

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