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Constructing a category prototype from statistical regularities under uncertainty

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Abstract

Learning the meaning of a word requires forming a semantic representation that characterizes the referential exemplars encountered with that word. However, each learning instance is ambiguous in that the word may plausibly refer to multiple entities. To the extent that learners consider multiple referents under conditions of referential uncertainty, how do these alternatives enter into learning word meaning? We employed a cross-situational word-learning paradigm with novel creatures to investigate whether co-occurring exemplars that were considered but not selected as the words referent would influence the category prototype. We contrasted a condition where all exemplars were labeled with a word and a condition where only some of the exemplars of a category were labeled with the word later in the learning phase. Preliminary results are consistent with the prediction that referents that are considered but not selected contribute less to the semantic representation of the word than do the selected referents.