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Proceedings of the Annual Meeting of the Cognitive Science Society

Title

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Journal

Proceedings of the Annual Meeting of the Cognitive Science Society, 37(0)

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Publication Date

2015

Peer reviewed

A Computational Account of Novel Word Generalization

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Abstract: A key challenge faced by children in vocabulary acquisition is learning which of the many possible meanings is appropriate for a word. The word generalization problem refers to how children associate a word such as dog with a meaning at the appropriate category level in the taxonomy of objects, such as Dalmatians, dogs, or animals. We present extensions to a cross-situational learner that enable the first computational study of word generalization integrated within a word learning model. The model simulates child patterns of word generalization due to the interaction of type and token frequencies in the input data, an influence often observed in usage-based approaches to underlie people's generalization of linguistic categories.