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Journal

Proceedings of the Annual Meeting of the Cognitive Science Society, 41(0)

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Publication Date

2019

Peer reviewed

An Associative Theory of Semantic Representation

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Abstract

We present a new version of the Syntagmatic-Paradigmatic model (SP; Dennis, 2005) as a representational substrate for encoding meaning from textual input. We depart from the earlier SP model in three ways. Instead of two multi-trace memory stores, we adopt an auto-associative network. Instead of treating a sentence as the unit of representation, we go down a scale to the level of words. Finally, we specify all stages of processing within a single architecture. We show how the model is capable of forming representations of words that are independent of the surface-form through some question-answering examples. We end with a discussion of how the current model can provide a mechanistic account of elaborative and inferential processes during comprehension.