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Proceedings of the Annual Meeting of the Cognitive Science Society

Title

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Permalink

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Journal

Proceedings of the Annual Meeting of the Cognitive Science Society, 40(0)

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Publication Date

2018

Scalar Language is Shaped by the Statistical Properties of the Environment

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Abstract

One of the driving forces of language evolution is the selection of variants that suit the communicative needs of its users. Crucially, fitness of linguistic variants may largely depend on the structure of the environment in which language is learned, transmitted, and used. This hypothesis has gained support in various domains. We apply it in the context of scalar terms with a major focus on quantifiers, such as 'most'. Based on a model that combines logic and evolutionary game theory, we argue that such signals might have evolved as stable semantic units through adaptation to general communicative principles and distributional properties of the environment such as normality.