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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, 46(0)

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Publication Date

2024

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Peer reviewed

Systemic structure of kinship is shaped by evolutionary processes

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Abstract

Kinship terminology varies cross-linguistically, but there are constraints on which kin may be categorised together. One proposed constraint on kinship diversity is internal co-selection: an evolutionary process where terminological changes in one generation of the kinship paradigm co-occur with parallel changes in other generations, increasing system-wide predictive structure. We compared kinship systems from 544 natural languages to simulated baselines and found higher-than-chance mutual information (MI) between generations of kin, suggesting a selective pressure for internal co-selection. We then tested experimentally whether this systematicity increases learnability. Participants were taught artificial kinship systems with either maximum or minimum MI between generations. We predicted the high-MI system would be easier to learn, but participants showed little evidence of learning in either condition. A follow-up experiment tested whether predictive structure facilitates generalisation rather than learning. Although other strategies are common, we found that participants often maximise predictive structure when generalising terms to new kin.