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# **A Cognitive Bias for Cross-Category Word Order Harmony**

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## **Abstract**

Cross-linguistically, heads tend to be ordered consistently relative to dependents. This tendency is called Cross-Category Harmony. Alternative explanations for harmony include cognitive and non-cognitive processes (e.g., grammaticalization pathways), but evidence disentangling them is still lacking. We report two artificial language learning experiments testing harmony between verb phrases (VP) and adpositional phrases (PP) and between VPs and noun phrases consisting of adjectives and nouns (NP). These two cases are critically different: typological evidence for the former is strong but there is no typological evidence for the latter. Our results parallel the typology; we find a strong preference for harmonic orders between VP and PP regardless whether the participants' native language has harmonic order (English speakers) or mixed orders (Chinese speakers), but no preference for harmonic order between VP and NP. This suggests that a cognitive bias for harmony may play a role in shaping typology.