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The influence of word-order harmony on structural priming in artificial languages

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Abstract: Structural priming occurs when interlocutors copy the syntactic structure of their partners' utterances, and is diagnostic of their underlying representations. We trained adult participants on an artificial 'alien' language in which nouns appeared with adjectives or numerals in two-word phrases; participants then used that language to communicate with an alien interlocutor. Input languages had variable word-order with the two modifier types tending to appear on the same side of the noun (harmonic) or on different sides of the noun (non-harmonic). Participants in all conditions acquired the dominant order of their input; however, structural priming only occurred within modifier types (e.g. encountering Numeral-Noun primed Numeral-Noun order only, not Adjective-Noun), even for participants exposed to harmonic input where both modifier types patterned the same way. This suggests that the abstract representations tapped by structural priming in rapidly-learnt artificial languages encode distinctions that are not based purely on distributional properties of the input.