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Distributional learning of recursive structures: The role of the structural representation

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Abstract

A recent proposal argued a structure like X1's-X2 is recursive if X1 and X2 are substitutable as the head; the head requirement avoids wrong generalizations like '*dogs chase cats chase rats' since NP is not the head of NP1-V-NP2 although the NPs can be substitutable. To test the role of headedness in the distributional learning of recursion, we exposed 50 adults to one of two artificial languages: both allowed A1-B-A2 strings, with A1 and A2 substitutable; but the head was A2 in one language and B in the other. Non-head elements were optional, so the two languages allowed different linear strings. In the rating test, at predicted, participants from both conditions learned the head; and while there was no difference for ABA strings between conditions, suggesting they all learned linear substitutability, participants exposed to head substitutability (A-head) were more willing to allow recursion (ABABA) with both attested and unattested words.