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The detection of configuration and identity changes of object arrays in infancy

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Abstract

Depictions are spatio-temporal arrangements of symbols carrying information about the entities the symbols stand for. We hypothesized that symbolic displays should specifically facilitate the encoding of spatial relations. We tested this hypothesis in 10-month-old infants by exposing them to configurations of unfamiliar objects in a communicative context (which should promote the interpretation of the objects as potential symbols) and in a non-communicative context. We assessed infants' memory for the object arrays by measuring looking times to arrays that matched the original display or altered the identity or the configuration of the objects. A Bayesian hierarchical model on log-transformed looking times revealed a main effect of identity change but no significant interaction between configuration change and communicative context. However, within-condition comparisons showed significantly longer looking to identity changes in both contexts, and to configuration changes only in the communicative condition, suggesting that symbolic displays specifically enhanced the encoding of spatial relations.