# Mental computations underlying morphosyntax acquisition

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**Abstract:** Research in theoretical linguistics has shown that human languages require abstract and highly detailed grammatical representations. However, we understand surprisingly little about the mechanisms through which these representations are acquired. What kinds of statistical relationships would learners need to compute to construct representations like those posited by linguistic theory? We created miniature languages containing patterns found in natural languages and also patterns not found in natural languages. We showed that complex word-order contingencies are acquired only when they correlate with morphological patterns like those in natural languages. We then asked how learning changes when the statistical evidence for these patterns is manipulated. These experiments illuminate the nature of learners' computations and the units over which they are performed.