

# The differential effects of transmission and interaction on linguistic variation

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**Abstract:** Variation in natural language is constrained: languages tend to lose competing variants over time, and where variation persists, its use tends to be conditioned on grammatical or sociolinguistic context. We had adult participants learn and communicate with artificial languages exhibiting unpredictable variation in plural marking. Using an iterated learning procedure, the languages produced by participants were used as training languages for other participants. We passed on either the language produced during a post-training recall test (Recall condition) or the language used while communicating with another participant (Interaction condition). We found that alignment during interaction leads to the elimination of variability: in Interaction chains, one plural marker typically came to dominate. However, in Recall chains, variation became conditioned on linguistic context, rather than being eliminated. This suggests that the pattern of restricted, conditioned variation in natural language reflects the combined influences of biases in learning, recall and interaction.