

## Simplicity priors and conceptual structure

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Languages are shaped by competing pressures from learning and communication. Learning favours simple languages, while communication favours informative ones, giving rise to the simplicity–informativeness tradeoff.

In this talk I will pay special attention to the simplicity part of this tradeoff. I argue that learning is best viewed as a model selection problem in which a simplicity prior plays an essential role in allowing agents to reason about unseen items and to avoid overfitting noise in the data stream.

I show that simple, structured, learnable concepts can emerge from this very general principle in a Bayesian iterated learning model. And I show that an experimental analogue of this model returns strikingly similar results.

Finally, I consider another hypothesis that could explain the results – that learners have a prior bias for informativeness – and I show why this explanation is unlikely.