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Human information processing shapes language change

Abstract: Languages across the world—despite their diversity—also exhibit abstract commonalities. I examine the hypothesis that the cross-linguistic distribution of grammars can be accounted for, at least in part, in terms of their processing or communicative utility. In a series of miniature language learning experiments, I ask whether preferences for efficient processing and communication operate during language acquisition, biasing learners to deviate from the input they receive, thus changing the input to the subsequent generation of learners and providing a seed for language change. The findings support this hypothesis: when presented with relatively inefficient input languages, learners deviate subtly but systematically from the input towards more efficient linguistic systems. Learning outcomes in these experiments closely mirror typological patterns in syntax and morphology, such as trade-offs between cues to grammatical function assignment and patterns in length-based constituent ordering. This suggests that at least some cross-linguistic commonalities originate in biases and limitations of human information processing.