

## Abstract

Although there may be no true language universals, it is nonetheless possible to discern several family resemblance patterns across the languages of the world. Recent work on the cultural evolution of language indicates the source of these patterns is unlikely to be an innate universal grammar evolved through biological adaptations for arbitrary linguistic features. Instead, it has been suggested that the patterns of resemblance emerge because language has been shaped by the brain, with individual languages representing different but partially overlapping solutions to the same set of nonlinguistic constraints. Here, we use computational simulations to investigate whether biological adaptation for functional features of language, deriving from cognitive and communicative constraints, may nonetheless be possible alongside rapid cultural evolution. Specifically, we focus on the Baldwin effect as an evolutionary mechanism by which previously learned linguistic features might become innate through natural selection across many generations of language users. The results indicate that cultural evolution of language does not necessarily prevent functional features of language from becoming genetically fixed, thus potentially providing a particularly informative source of constraints on cross-linguistic resemblance patterns.