Probing substantively biased learning: The test case of vowel harmony versus disharmony

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The substantively biased learning hypothesis states that when acquiring new phonological patterns, learners are biased by the expectation that these patterns will be phonetically motivated. Patterns like vowel harmony, which reflect lower-level phonetic processes such as vowel-to-vowel coarticulation, are thus expected to be easier to learn (and in turn more readily transmitted) than patterns which lack a clear phonetic motivation, over time potentially amplifying typological asymmetries. However other, possibly stronger, biases also have a role to play during learning. Importantly, learners have been shown to be biased towards simpler over more complex patterns in a wide variety of domains, so any test of the influence of a pattern's supposed phonetic motivation must not be confounded by questions of complexity. Over a decade ago, Moreton & Pater (2012a,b) laid out the state of the art on biases in phonological learning, attempting to separate the influence of structural complexity from potential substantive bias. They showed that while a bias for simple patterns had been demonstrated with robust empirical evidence, evidence for a substantive bias was weak at best, suggesting that if substantive bias had any role at all to play during phonological learning, it was relatively small. In the decade since, a wider literature has emerged, with growing evidence that substantive bias, while sometimes tricky to pin down due to methodological considerations, does appear to play a role in the inferences learners make (Zheng & Do, 2024). Vowel harmony, a widely-attested, phonetically-motivated pattern, presents an interesting test case, because its opposite, vowel *dis*harmony, is typologically vanishingly rare and indeed lacks any clear phonetic motivation. Crucially, though, any vowel (dis)harmony pattern would operate on a precise set of phonological features, rendering the harmonic and disharmonic versions formally equally complex. In this talk, I will present a series of studies that I have conducted over the years with different collaborators to specifically test the role of substantive bias in learning vowel harmony versus disharmony patterns (Martin, 2017; Martin & Peperkamp, 2020; Martin & White, 2021). I will also present new data from our most recent study suggesting that vowel harmony is indeed favoured during learning relative to vowel disharmony; that the inferences that learners make are feature-based; and that in novel morphological contexts, even learners initially exposed to a vowel disharmony pattern infer a locally harmonic one.

References

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