Modeling inter-speaker variation in Texistepec Popoluca overapplication of reduplication

Can constraint ranking algorithms learn different grammars from the same input in the context of language death?

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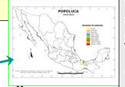
Introduction:

Current learning algorithms for phonological constraint ranking either learn a **strictly-ranked grammar from consistent input** (OT constraint demotion algorithms) or learn a **grammar with variation from input with variation** (stochastic OT ranking algorithms). The acquisition of a single strict grammar from input with variation (i.e. loss of variation and standardization) is a complex but well-understood problem. But absent from research in this area has been the question of **if and how multiple identical learners could acquire distinct grammars from the same input**. Presumably, this is because such a community of speakers is unattested in the natural linguistic literature. We attest such a linguistic community, the speakers of Texistepec Popoluca, and discuss the abnormal grammatical and environmental factors that may have caused this unusual pattern of variation. The Gradual Learning Algorithm (Boersma & Hayes, 2001) is designed to model the acquisition of individual grammars with variation, but when we simulate the particular austere learning conditions found in Texistepec, the GLA is also an adequate model for the acquisition of a stochastically distributed set of strict grammars, like the ones found among these speakers.


POPOLUCA
REGIÓN
MUNICIPIOS
Acayucan
Hueyapan de Ocampo
Sayula de Alemán
Oluta
Soconusco
Texistepec
Jesús Carranza
Pajapan
Mecayapan
Tatahicapan
Uxpanapa
San Juan Evangelista
Hidalgotitlán
Soteapan
Tatahicapan de Juárez
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