Expectation shapes speech perception in Kaqchikel Mayan: Psycholinguistics with ‘Small Data’

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**Abstract:** In this talk we explore the relationship between phonetics, phonology, and the lexicon in Kaqchikel, a Guatemalan Mayan language. The phonemic inventory of Kaqchikel includes a set of plain stops /p t k q/ as well as a set of 'glottalized' stops /Ø t' k' d' ʔ/. We investigated the perceptual similarity of these stops by means of an AX discrimination task conducted with Kaqchikel speakers in Guatemala. After connecting the patterns of perceptual confusion observed in this study to the synchronic phonology and diachronic development of Mayan languages, we consider whether perceptual similarity might be conditioned by two factors related to prior linguistic experience: (1) the acoustic similarity between phonemic categories, calculated from a one hour acoustic corpus of spontaneous spoken Kaqchikel; and (2) lexical statistics (phoneme frequency, functional load, etc.), calculated from a one million word written corpus. Our overall conclusions are (1) that experience-based lexical and acoustic factors do affect speech perception in Kaqchikel; (2) these factors most likely exert an influence through low-level perceptual tuning during perceptual learning; and (3) corpus methods can be robustly extended to psycholinguistic research on minority languages even when only limited and imperfect resources are available.