

Stochastic constraint-based grammars for Hausa verse and song

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I pursue a long-standing tradition in phonology, namely appeal to poetic metrics as a testing ground for ideas more broadly applicable in phonology as a whole. The research I will describe is from an ongoing collaboration with Russell Schuh of UCLA.

The *rajaz* meter of Hausa is based on syllable quantity. In its dimeter form, it deploys lines consisting of two metra, each with six moras. A variety of metra occur, and the analytical challenge is to single out the legal metra from the set of logically possible metra. Our analysis, framed in maxent OT, does this, and also accounts for the statistical distribution of metron types — varying from poem to poem — within the line and stanza. We also demonstrate a law of comparative frequency for *rajaz* and show how it emerges naturally in maxent when competing candidates are in a relationship of harmonic bounding.

Turning to how verse is sung, we observe that *rajaz* verse rhythm is always *remapped* onto a sung rhythm, and we consider grammatical architectures, some serial, that can characterize this remapping. Lastly, we develop a maxent *phonetic grammar*, adapting the framework of Edward Flemming, to predict the durations of the sung syllables. Our constraints simultaneously invoke all levels of structure: the syllables and moras of the phonology, the grids used for poetic scansion, and the grids used for sung rhythm.