

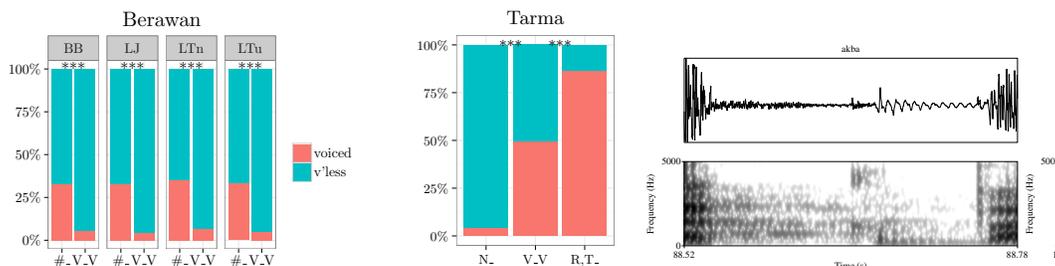
Unnatural Trends in the Lexicon: Diachrony and Synchrony

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Naturalness in phonology and the problem of unnatural phonological alternations have long been widely discussed topics (cf. Hyman 2001). Likewise, gradient phonotactic restrictions have received increased attention in the recent literature (Coetzee and Pater 2008). To my knowledge, no current discussions concern *unnatural gradient phonotactics* (UGP) (restrictions against universal phonetic tendencies). This paper aims to fill this gap: I present two cases in which gradient phonotactic restrictions on the lexicon operate in an unnatural direction — against universal phonetic tendencies —, show that gradience *can* be unnatural, explain the origins of unnaturalness, and discuss theoretical implications of UGP.

In the Berawan dialects (Malayo-Polynesian; Burkhardt 2014), the voice feature is fully contrastive word-initially. Intervocally, however, voice is dispreferred: voiced stops surface significantly more frequently initially than intervocally. This tendency in the lexicon (table below left) is *unnatural*: voicing is articulatorily more difficult to maintain initially than intervocally, and there exists a well-motivated universal phonetic tendency that bans voicing initially and promotes it intervocally (Westbury and Keating 1986).

In Tarma Quechua (TQ), voicing of [LAB] or [DOR] surfaces extremely rarely post-nasally (e.g. [tʃijka]), half of the time intervocally (e.g. [tʃiki] or [tʃagi]), and almost always post-consonantly ([takba]), including after another voiceless obstruents (analysis in Adelaar 1977, Puente Baldoceda 1977, Nazarov 2008, graph in center below from Nazarov 2008). Moreover, the voicing system of TQ features a restriction against TT clusters in favor of TD clusters (when the second element is [LAB] or [DOR]), creating another highly unnatural phonotactic restriction. Disagreeing voice feature in clusters is a significant and gradient tendency in TQ native vocabulary. The phonetic reality of the TQ distribution is confirmed by my analysis of recordings made by Willem Adelaar (below right).



Both languages provide indirect evidence that the UGP are (or were) active. Beside loanwords, where the described processes operate gradiently (e.g. TQ *kutbi* < Sp. *cotpe*; Nazarov 2008), TQ even features an active morphophonological unnatural alternation. A subset of suffixes alternate according to phonetic environment: post-nasally they appear with the voiceless variant and elsewhere (after a voiceless stop) with the voiced variant, e.g. [wayi-n-**pa** pasa-ʃun] vs. [tamy-a-ya-nuqa-ntʃik-**baq**] (-ba/-pa, -baq/-paq, Creider 1968).

I propose a new explanation for the origin of unnatural phonotactics that explains such unnaturalness as arising through a combination of minimally three sound changes. I label this approach the “blurring process” and show that it makes typological predictions for the rarity of unnatural phonotactic restrictions. Finally, the discussed cases of UGP bear implications for phonological theory: HG with restricted CON undergenerates systems with unnatural candidates surfacing more frequently than their natural equivalents. Future research on this topic is oriented towards experimental testing of UGP.

Abbreviations

TT = a sequence of two voiceless obstruents, where the second obstruent is [LAB] or [DOR]; TD = a sequence of a voiceless and a voiced obstruent, where the second obstruent is [LAB] or [DOR]; R = sonorant; BB = Batu Belah; LJ = Long Jegan; LTn = Long Terawan, LTu = Long Teru; TQ = Tarma Quechua; Sp. = Spanish

Selected References

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