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Saturday, March 7<sup>th</sup>: 11:30-12:00

The Phonotactics of Word-Initial Consonant Clusters in Nepali

In the last fifty years, very little linguistic literature has been published on Nepali. This is especially true of phonetic and phonological scholarship. This paper describes phonotactic restrictions on word-initial consonant clusters in Nepali. These clusters appear in highly restricted syllables of the shape #CrV(C), as in words like *grot*, 'anger' and *sriman*, 'husband.' Of Nepali's two phonemic rhotics, only the trill may appear in an initial cluster. We demonstrate that the C2 position trill is reduced to an approximant following certain onsets and preceding certain nuclei, elided following #s, banned after voiceless aspirated stops, and systematically varied in distinctions between careful and casual speech. Furthermore, we argue these reductions are motivated by articulatory and perceptual ease. Our arguments support claims about aerodynamic restrictions on trills made by Solé (2002) and Bradley (2006), and directly challenge the claims that clusters are explicitly said to not occur in the natural speech of Nepali speakers (Acharya 1991: 32) and that reduced trills will be generally realized as aps (Padgett 2003).

Our data provide evidence for the reduction and maintenance of /r/ in certain #C1 V environments. Figure (1) shows a typical trill following #g, while Figure (2) shows complete reduction following #s. Both trills and fricatives have exacting articulatory requirements. Following the framework of Bradley (2006), we argue that Nepali shows considerable gestural overlap in #sr environments, allowing for variation in the realization of the underlying phonological representation of an /sr/ cluster by "bleeding the aerodynamic requirements for trilling and/or frication" (12).

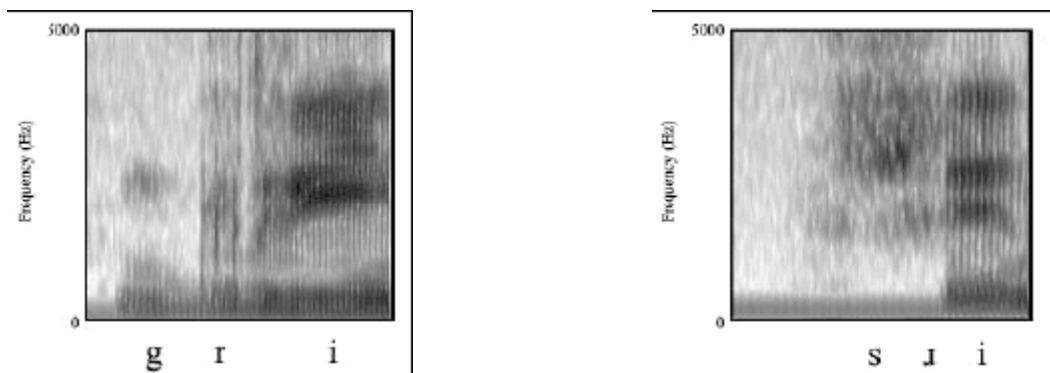


Figure 1: Cropped spectra of *grihini*, 'mistress of the house.' Figure 2: Cropped spectra of *srinana*, 'a place.'

Table (1) provides a summary of attested consonant cluster and vowel combinations. Trills are frequently reduced before /a, o/ and often retained preceding /i/. We argue this reduction and retention is motivated by articulatory ease with respect to place of articulation { for instance, trills before high front vowels are more likely to be retained on basis of the fact that the tongue tip remains relatively high and forward in the mouth for the articulation of both the trill at the alveolar ridge and the vowel near the palate. We argue that anticipatory movement toward low or back vowels increases the

likelihood that a speaker will reduce or elide a trill by disrupting the aerodynamic environment necessary to produce trilling. We consider the influence of initial consonants under the same framework.

	pr	br	b <sup>h</sup> r	tr	dr	d <sup>h</sup> r	kr	gr	g <sup>h</sup> r	mr	nr	sr
i	•	•	•	•	•	•	•	•		•	•	•
u		•	•		•	•	•		•	•		•
e	•	•			•	•						•
o	•				•	•	•	•	•	•	•	•
ʌ		•	•		•	•				•	•	•
a	•		•	•	•	•	•		•	•	•	•

Table 1: #CrV combinations attested by the data, where bullet points indicate permissible combinations.

Our data can additionally begin to provide a quantitative basis for different amounts of trilling in the careful and casual speech of a monolingual and a bilingual speaker, shown in Figures (3, 4). We consider careful-casual distinctions across multiple repetitions of a word as a function of elicitation setting formality, as well as general production differences on basis of linguistic upbringing. This latter is supported by Khattab (2002: 112) in a study examining the rhotic production of English and Arabic bilingual and monolingual children which concludes that bilinguals develop “separate /r/ production patterns for each of their languages.”

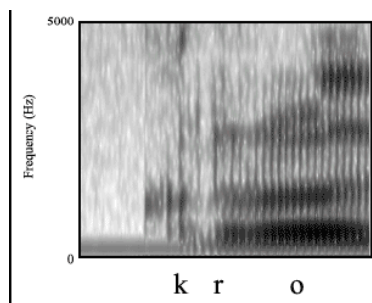


Figure 3: Cropped spectra of *krodhi*, ‘hot-tempered,’ spoken by our bilingual consultant.

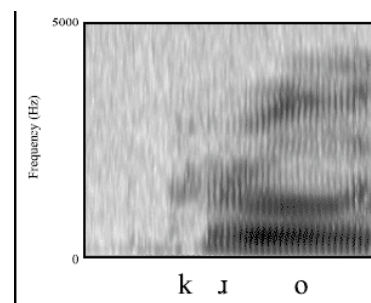


Figure 4: Cropped spectra of *krodhi*, ‘hot-tempered,’ spoken by our monolingual consultant

In addition to contributing novel data to current debates in the field, these findings provide a necessary opportunity for open discussion of an underdescribed world language.

#### References

- Acharya, J. 1991. *A Descriptive Grammar of Nepali and an Analyzed Corpus*. Washington, D.C.: Georgetown University.
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- Khattab, G. 2002. /r/ production in English and Arabic bilingual and monolingual speakers. *Leeds Working P.s in Ling. & Phon.* 91-129.
- Padgett, J. 2003. *Systemic contrast and Catalan rhotics*. Ms., U. of California, Santa Cruz.
- Solé, M.J. 2002. Aerodynamic characteristics of trills and phonological patterning. *Journal of Phonetics* 30, 655-688.