

# Morphoprosodic structure and categorization in Blackfoot nominals

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## Overview

This paper concerns the internal morphoprosodic structure of words in a polysynthetic language. I present evidence from Blackfoot (Algonquian) that uncategorized  $\sqrt{\text{ROOTS}}$  in the sense of Distributed Morphology (Marantz 1997) are mapped to Prosodic Roots, while categorized morphemes (such as English ‘bare roots’) are mapped to Prosodic Stems. In other words, prosodic structure is sensitive to syntactic categorization. The evidence comes from a domain-sensitive process of velar assibilation ( $/k/ \rightarrow [k^s]$ ) which occurs across the boundary of a noun-noun compound, but not across the boundary between a  $\sqrt{\text{ROOT}}$  and a noun. One consequence of my account is a more direct mapping between prosodic and syntactic structures which treat  $\sqrt{\text{ROOTS}}$  as distinct from categorizing heads (e.g.  $n^0, v^0$ ).

## Problem

There are two types of velar stops in Blackfoot: a voiceless unaspirated  $[k]$  (‘plain  $[k]$ ’), and a voiceless unaspirated assibilant  $[k^s]$  (Derrick 2007; Frantz 2009). Their distribution partially overlaps morpheme-initially and morpheme-medially, but is predictable morpheme-finally for at least some types of morphemes. In particular, the Blackfoot dictionary contains no instances of a  $[k^s]$ -final modifying prefix or noun (Frantz and Russell 1995).

All  $/k/$ -final nouns also have a  $[k^s]$ -final allomorph which occurs when the noun is the first part of a compound. For instance, *stamik* ‘steer’ is shown in (1) followed by inflectional suffixes, where the final  $/k/$  surfaces as  $[k]$ . In (2), *stamik* ‘steer’ is the first noun in a noun-noun compound, and the final  $/k/$  surfaces as an assibilant  $[k^s]$ . Crucially, this assibilation is not due to phonological context. Example (3) shows that a  $/k/$  at the right edge of a modifying prefix *pa’ksik-* ‘mud’ does not assibilate, although it stands in the same phonological context as in (2).

(1) SIMPLEX N	(2) $N_1+N_2$ COMPOUND	(3) MODIFIER + $N_2$
stá.mi.ka	stá.mi.k <sup>s</sup> ɔ:óʔ.si.ni	paʔ.k <sup>s</sup> i.kó:óʔ.si.ni
stamik–a	stamik–aoo’ssin–i	pa’ksik–aoo’ssin–i
steer–AN.SG	steer–berry.soup–IN	goopy–berry.soup–IN
‘steer’	‘beef stew’	‘thick soup’

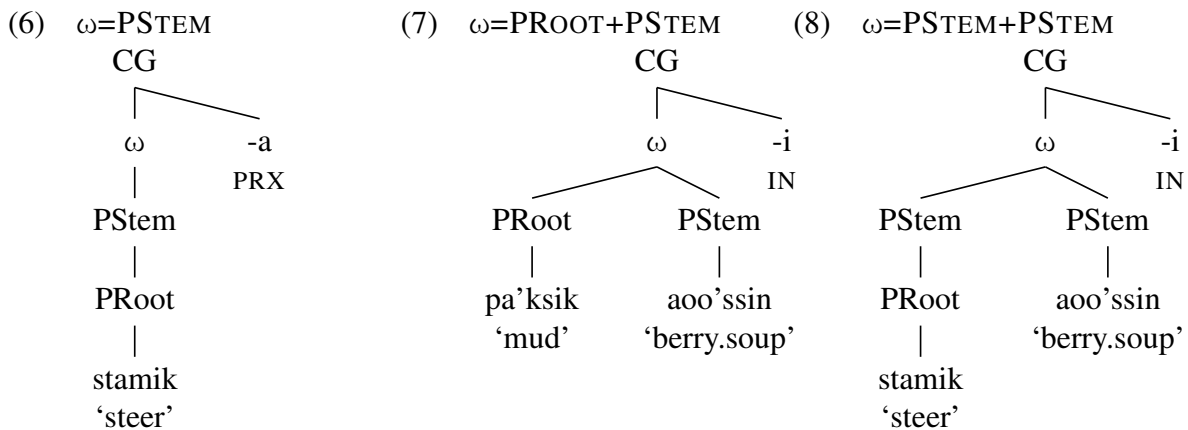
Previous analyses of  $/k/$ -assibilation assume that assibilation, when it occurs, is triggered by an immediately following  $[i]$  (Armoskaite 2006; Frantz 2009). However, compounds in Blackfoot do not contain an  $i$  at the boundary between the two nouns. I take this as evidence that assibilation within compounds is conditioned solely by structure.

## Solution

I propose that the difference between nouns like *stamik* ‘steer’ in (2) and modifiers like *pa’ksik-* in (3) is that nouns are categorized in Blackfoot while modifiers are uncategorized  $\sqrt{\text{ROOTS}}$ . Evidence for this is that nouns can occur immediately before inflectional suffixes, as in (1), while modifiers cannot (4a). Instead, to be a well-formed stem, they must first be categorized by combining with either a nominalizing suffix like *-itapi* ‘person’ (4b), or a verbalizing suffix like *-ii* STAT (4c) (where *ohpok-* is an allomorph of *pok-*).

- (4) a. \*po.k<sup>(s)</sup>i.k<sup>s</sup>i  
 pok–iksi  
 small–AN.PL  
 Intended: ‘the small ones’
- b. po.ki.tá.pɛi.k<sup>s</sup>i  
 pok–itapi–iksi  
 small–AN.PL  
 ‘small persons’
- c. i:<sup>h</sup>po.kí:  
 ohpok–ii–wa  
 IC\small–STAT.II–3  
 ‘it is small’

Consequently, modifiers map to a Prosodic Root (PRoot), while nouns map to a PRoot contained within a Prosodic Stem (PStem) (Inkelas 1989; Nespor and Vogel 2007). A phonological rule assibilates /k/ → [k<sup>s</sup>] at the right edge of a PStem, unless the right edge of the PStem coincides with the right edge of a Prosodic Word (ω). This is demonstrated in (6), (7), and (8) below. The /k/ in *stamik-a* ‘steer’ in (6) does not assibilate because although it is at the right edge of a PStem, it is also at the right edge of ω. The /k/ in *pa’ksik-* ‘mud’ in (7) also does not assibilate, because it is not at the right edge of a PStem. Finally, the /k/ in *stamik* ‘steer’ in (8) does assibilate, because it is at the right edge of a PStem which is not final in ω.



## Consequences

There are several consequences of this account for both Blackfoot and the prosody-syntax interface in general. Regarding Blackfoot, this data shows that (a) some instances of [k<sup>s</sup>] are caused by structure, and not simply by assibilation of /k/ before [i], and that (b) we expect other phonological processes to show sensitivity to these domains. Regarding the prosody-syntax interface, this account suggests that word-internal morpho-prosodic domains may be definable by syntactic structure and elements. For instance, in a Distributed Morphology framework (Marantz 1997), PRoots map to √ROOTS, while PStems map to categorized roots (e.g. *nP* in this case).

## References

- Armoskaite, S. (2006). Heteromorphemic assibilation of *k* in Blackfoot. Qualifying Paper, UBC.
- Derrick, D. (2007). Syllabification and Blackfoot /s/. In *Proceedings of the Northwest Linguistics Conference 22*, volume 1, pages 62–76. Simon Fraser University Working Papers in Linguistics.
- Frantz, D. G. (2009). *Blackfoot grammar*. UToronto, 2nd edn edition.
- Frantz, D. G. and Russell, N. (1995). *Blackfoot dictionary of stems, roots, and affixes*. UToronto.
- Inkelas, S. (1989). Prosodic constituency in the lexicon. Published 1990, New York: Garland.
- Marantz, A. (1997). No escape from syntax. *University of Pennsylvania Working Papers in Linguistics*, 4(2):201–225.
- Nespor, M. and Vogel, I. (2007). *Prosodic phonology: with a new foreword*, volume 28. Walter de Gruyters, 2nd edn edition.