

## Late vocabulary insertion: Evidence from prosodically-conditioned root allomorphy in Blackfoot

One aspect of the phonology-syntax interface concerns the *timing* of vocabulary insertion relative to other syntactic and phonological operations. In this paper I argue that vocabulary insertion must occur late in the derivation, at a point where prosodic structure is visible. The evidence comes from patterns of prosodically-conditioned root allomorphy in Blackfoot (Algonquian).

### Evidence for a Prosodic Word (PWd) domain, which is distinct from the $\nu$ P phase.

A. The stem is a categorized  $\nu$ P in Blackfoot. Stems are complex and contain minimally a  $\sqrt{\text{ROOT}}$  and a verbalizing suffix, which determines valency and the grammatical animacy of the argument. For example, *-ssi* combines with  $\sqrt{\text{MAAN}}$  ‘new’ to derive an intransitive verb with an animate argument, (1a), while *-ii* derives an intransitive verb with an inanimate argument, (1b).

- (1) [ $\sqrt{\text{ROOT}} - \nu^0$ ] $_{\nu\text{P}}$
- |    |       |                        |                      |
|----|-------|------------------------|----------------------|
| a. | [maan | -ssi] $_{\nu\text{P}}$ | ‘s.o. be young, new’ |
| b. | [maan | -ii] $_{\nu\text{P}}$  | ‘s.t. be new’        |

B. The  $\nu$ P is included in the domain for stress assignment, but prefixes are outside this domain. (Below, an acute accent marks stress, and parentheses mark the head foot.) For a verbal complex with no prefixes to the  $\nu$ P, (2a): stress falls on the second syllable of a disyllabic stem; on the second syllable of longer stems when the second syllable is heavy; and on the third syllable otherwise. Stress is never attracted to a heavy initial syllable, showing that this syllable is unfooted. For stems with prefixes: the leftmost prefix must be footed. When the root  $\sqrt{\text{MAAN}}$  ‘new’ occurs as a prefix to a stem, (2b), stress falls on the prefix rather than on the second heavy syllable, showing that the prefix is not parsed into the same domain as the stem. The same is true for functional prefixes like *aak-* ‘FUT’ (2c), where stress falls on the prefix rather than the second syllable of the disyllabic stem. I take the difference between stress assignment inside and outside the  $\nu$ P to mean that the  $\nu$ P is a phase. The inner morphology of the  $\nu$ P is invisible to stress assignment, and instead the root and  $\nu$  behave like a single unit for stress assignment.

- (2) a. [maan-íí]-wa                      ma:.(ní:).wə                      \*(má:).ní:.wə                      ‘it is new’  
       [maan-á’pii]-wa                      ma:.(ná?).pi: .wə                      \*(má:).ná?.pi: .wə                      ‘it was recent’  
       [maan-ssí]-wa                      ma:n.ʔs.sí.wə                      \*(má:n).ʔs.sí.wə                      ‘he is young, new’
- b. máán-[o’t-oo]-wa                      (má:).noʔ.to: .wə                      \*ma:.(nó?).to: .wə                      ‘she recently arrived’
- c. áak-[an-ii]-wa                      (â:).ka.ni: .wə                      \*a: .ka.(ní:).wə                      ‘it will be new’

C. The domain for stress assignment is a Prosodic Word (PWd), and is phonological in nature rather than syntactic. The evidence is that the domain of stress assignment may mismatch from the  $\nu$ P and other morphological boundaries. In (3a), a foot includes the first prefix *nit-* ‘1’ and one syllable of the following prefix *itin-* ‘among’. This shows that foot boundaries do not necessarily coincide with morpheme boundaries. In (3b), stress falls on a suffix to the stem rather than on the stem-final syllable. This shows that the domain of stress does not coincide with the  $\nu$ P, since the head foot and main stress fall partially outside the  $\nu$ P.

- (3) a. nit-ítin-a-[oksk-a’si]                      (ni.tsí).tsi.nə: .ks.kaʔ.sí                      ‘I joined in the run’
- b. [sok-in]-ís                      so.(ki.nís)                      \*(so.kí).nis                      ‘doctor him!’

### Evidence that vocabulary insertion is conditioned by prosodic structure.

D. Many roots have two realizations. One allomorph occurs at the left edge of the verbal complex, while the second allomorph occurs elsewhere, i.e. after prefixes in a consonant (C) or a vowel (V). The realizations are related to one another in complex ways. For example, a root after a prefix may exhibit *epenthesis* (with or without root-internal gemination) (4a), an [ox] *accretion* (4b), *glide retention* (4c), *nasal deletion* (4d), or *glide substitution* (4e). In some cases, neither form can be predictably derived from the other, and both allomorphs must be lexically-listed. (These transcriptions abstract away from predictable phonological processes and syllabification.)

(3)	<i>Left edge</i>	<i>After C</i>	=	<i>After V</i>	<i>UR</i>	<i>Gloss</i>
a.	[pom:] [kipita]	[ipom:] [ip:ita]		[ipom:] [ip:ita]	/pom:/ {/kipita/, /p:ita/}	‘transfer’ ‘aged’
b.	[pom:]	[oxpom:]		[oxpom:]	{/pom:/, /oxpom:/}	‘buy’
c.	[i:p]	[ji:p]		[ji:p]	/ji:p/	‘decrease’
d.	[ma:n] [ni:po]	[an] [ipo]		[an] [ipo]	{/ma:n/, /an/} {/ni:po/, /ipo/}	‘recent’ ‘upright’
e.	[ma:k] [na:m]	[ja:k] [ja:m]		[ja:k] [ja:m]	{/ma:k/, /ja:k/} {/na:m/, /ja:m/}	‘arrange’ ‘alone’

E. Given that distinct phonological and syntactic structures exist in Blackfoot, allomorph selection could be conditioned by either type of structure. I argue here that allomorph selection is conditioned by prosodic structure. (1) The elsewhere allomorph is phonologically optimizing (Mascaró 2007): all elsewhere allomorphs begin in either a glide or vowel. I take this as evidence for a phonological restriction against [+cons] segments at prosodic junctures. (2) This restriction conditions phonological processes like epenthesis, (3a), which create mismatches between the syntactic  $\nu$ P and the prosodic PWd. (3) The boundaries are well-defined in terms of phonology, but not in terms of morphosyntax. The prohibition against [+cons] holds at the left edge of the PWd and at the junctures between each morphosyntactic constituent to the left. Since prefixes can be lexical or grammatical, as well as simplex or complex, there are no clear morphosyntactic generalizations about where boundaries occur.

**Analysis:** In terms of timing, vocabulary insertion must occur quite late, when prosodic structure is accessible (Henderson 2012). At the same time, allomorph selection and stress assignment both rely on the presence of prefixes which are higher than the  $\nu$ P, so vocabulary insertion can only occur after the full syntactic structure is visible.

To account for this, I propose that particular prosodic constituents correspond to particular phases (Chomsky 2001; Kratzer & Selkirk 2007), e.g.  $\nu$ P = PWd and CP = PPh. The  $\nu$ P phase is not spelled-out and removed from syntax; instead the left and right edges of the  $\nu$ P phase remain visible at PF. I propose that there are violable constraints regulating the correspondence between  $\nu$ P and the PWd. The correspondence constraints are evaluated at the same time as (a) other phonological constraints, such as the \*[+cons] constraint, which may cause mismatches between syntactic and prosodic structure; and (b) allomorph selection. This predicts that allomorph selection may interact with correspondence constraints.

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