

A prosodic analysis of the word in Kiowa

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Kiowa, a polysynthetic Tanoan language, is said to have particularly long words with the expressive power of a full sentence (1). In this paper, I demonstrate that with regard to the phonological structures and phenomena of the language, the assumption that Kiowa's long complexes form single words leads to incorrect predictions. Specifically, I show Kiowa's verb complexes (2) (Watkins 1984) are better analyzed as several phonological words (PWs) defined, following (Nespor & Vogel 1986), as a root and any suffixes. This yields up to 4 PWs in what has been considered a single word. The proposed constituents are demonstrated to form the domains for several different phonological phenomena of the language, which cannot otherwise be accurately explained.

Consider first the string consisting of STEM- $\{\text{Inflect, Modal}\}$ -(Synt), which I consider to form a PW. Support for this string as a phonological constituent comes from Closed Syllable Shortening (underlying long vowels shorten in closed syllables). In (3), syllabification spans the morpheme boundary, allowing root-final /m/ to resyllabify as the onset of the Imperfect/Hearsay /-è:/. Root-final /m/ remains the coda in the other two forms, triggering Closed Syllable Shortening. Furthermore, STEM- $\{\text{Inflect, Modal}\}$ forms a domain for other phonological processes: Vowel Truncation, Glide Formation, and Dental-Velar Switch (di \rightarrow gi) (4). In the absence of evidence to the contrary at present, I assume that syntactic suffixes are also in the STEM's PW to satisfy the adopted PW definition.

Second, the verb's incorporated elements can be considered individual PWs because each is a root and therefore satisfies the adopted definition. Closed Syllable Shortening and Final Devoicing (all syllable-final obstruents devoice) confirm this constituent, since they apply within the domain thus specified. In (5), the noun stem 'deer' /t'á:b/ surfaces as [t'áp] indicating that syllabification does not span the morpheme boundary. Furthermore, incorporated elements appear to always undergo the above-mentioned phonological rules. For example, there are no instances of vowel hiatus on the surface indicating that Vowel Truncation always occurs. Thus, at least phonologically, the long verbs structures are comprised of multiple smaller constituents.

Kiowa's pronominal prefixes cannot form PWs according to the above definition because they do not contain a root. Nevertheless, syllabification and the above phonological rules indicate these prefixes form independent phonological domains. In (6), prefix-final /d/ devoices demonstrating that syllabification does not span past the prefix. Moreover, the phonological rules in (7) apply within but not outside the prefix. A prefix-specific nasalization process then establishes that the prefixes' phonological domain does not act the same as the PWs above. I thus propose they are excluded elements and that they must be included within a higher level in the Prosodic Hierarchy (8).

Given the similar reanalyses for Kiowa and other unrelated Native American languages as in (Russell 1999) and (Dyck 1994), I hypothesize that analogous treatments will provide insightful analyses of other Native American languages and possibly polysynthetic languages around the world. The fact that polysynthetic words are better analyzed as smaller phonological units also calls into question whether or not a similar analysis might prove worthwhile in morphology and syntax.

(1) é_̣ -étpáthéi-pholaq̣hiḡ-khoo -tot
 [3s:1s]-forced -rabit -get.NV-send.PF
 'She forcibly sent me to get a rabbit.' (Watkins 1984, p. 190)

(2) Pronominal Prefixes – (Adv) - (N) – (V) – STEM – {Inflect, Modal} – (Synt)

(3)

Root	Ipf/Hsy	Imp	Future	Gloss
/ḡ:m/	ḡ:m-è:	om̄	óm-tó:	'do/make'

 (Watkins 1984, p. 20)

(4) 'break/itr' /thém/ (Watkins 1984, p. 45)

Perfect	Negative	Future	Ipf/Fut	
/thém-gé-iạ/	/thém-gé-ḡ:/	/thém-gé-t'ḡ:/	/thém-gé-î-t'ḡ:/	underlying
thém-giá	thém-gḡ:	–	thém-gî-t'ḡ:	V Truncation
–	–	thém-dé-t'ḡ:	–	D-V Switch
thém-gyá	–	–	–	Glide Formation
[thém-gyá]	[thém-gḡ:]	[thém-dé-t'ḡ:]	[thém-gî-t'ḡ:]	surface

(5) è -t'áp +è +bà (Watkins 1984, p. 227)
 [1pl]-deer+hunt+go/pf
 'We went deer-hunting.'

(6) bét -ḡḡ cf. /b-iạ-e-d/ '2pl:inv' (Harbour 2003)
 [2pl:inv] -gave

(7) '(x/agt):2du/pat:obj' (Watkins 1984, p. 48)

sg/obj	du/obj	pl/obj	inv/obj	
/b-ḡ-Ø/	/b-ḡ-e-d/	/b-ḡ-iạ-d/	/b-ḡ-ḡ-d/	underlying
bḡ	béd	biáḡ	bḡḡ	V Truncation
–	–	byáḡ	–	Glide Formation
–	–	báḡ	–	Glide Deletion
mḡ	mén	mán	mḡḡ	Nasalization
[mḡ]	[mén]	[mán]	[mḡḡ]	surface

(8)

PW	PW	PW	PW
			└─┬─┘

 Ppfx-(Adv)-(N)-(V)-STEM-{Inflect, Modal}-(Synt)

Selected References:

Dyck, Carrie (1994). The definition of 'word' in polysynthetic languages. *Proceedings of the 1993 Annual Conference of the Canadian Linguistic Association*, ed. Carrie Dyck, 187-203. Toronto Working Papers in Linguistics, University of Toronto.

Harbour, Daniel. (2003). The Kiowa Case for Feature Insertion. *Natural Language & Linguistics Theory* 21:3, p. 543.

Nespor, Marina and Irene Vogel (1986). *Prosodic Phonology*. Foris, Dordrecht.

Russell, Kevin (1999). The "Word" in two polysynthetic languages. In: Hall T A & Kleinhenz U (eds.) *Studies on the Phonological Word*. Amsterdam: J. Benjamins, 203-221.

Watkins, L. J., & McKenzie, P. (1984). *A grammar of Kiowa*. Lincoln: University of Nebraska Press.