

## **Between Grammar and Poetry: The Structure of Nanti *Karintaa* Chants**

Lev Michael  
*University of Texas at Austin*

*The structure of verbal art and the grammar of everyday speech have been argued to be intimately related by scholars from a variety of theoretical backgrounds. A major theme in this line of research is that poetic forms are generated by the artistic redeployment of linguistic resources already present in the grammar of a language (Jakobson, 1968; Sherzer, 1990; Tannen 1989). This paper evaluates and explores this claim by examining the poetic structure of a particular verbal art form in relation to the grammar of the language spoken by its performers. The verbal art form I examine is karintaa, an extemporaneously composed poetic form performed by the Nantis of the Peruvian Amazon. Focusing on the phenomenon of vowel lengthening in these chants, I compare this prosodic phenomenon with the grammaticalized prosodic structure of everyday Nanti speech. To make my comparison maximally explicit, I adopt an optimality theoretic framework in which I take extemporaneous karintaa to be outputs of a canonical optimality-theoretic constraint system that serves to force inputs (which are everyday utterances) to more closely match the prosodic structure of the refrain.*

Linguistic anthropologists have yet to suggest the existence of a society that lacks poetry. It seems that where there is language, there is poetry. This apparent coextensiveness of poetry and language raises questions regarding the relationship of poetry to everyday language and, ultimately, regarding the place of linguistic theory in the study of poetry. One influential line of thought regarding these issues is articulated by Roman Jakobson (1981), who defended “the right and duty of linguistics to direct the investigation of verbal art in all its compass and extent,” and who, in the same passage, approvingly quotes Paul Valéry’s comment that literature and poetry are “nothing else but the extension and application of certain properties of language.” The idea that poetry is an outgrowth or redeployment of properties, processes, and structures found in everyday language is echoed in various ways in much recent work, including that of Paul Friedrich (1986), Dell Hymes (1981), and Deborah Tannen (1989).

The purpose of this paper is to explore to what degree, and in what ways, we can understand poetry to be an outgrowth of everyday language. I propose to get some traction on this vast question by examining certain aspects of the language-poetry relationship in a particular Amazonian community, the Nanti community of Montetoni in southeastern

Peru. In particular, I will focus on the connection between the principles governing the poetic well-formedness of the *karintaa chants* performed in this community and the principles governing the linguistic well-formedness of everyday Nanti speech.

A careful comparison of the structure of Nanti *karintaa* chants and Nanti grammar, I will argue, teaches us the following: First, *karintaa* chanting both respects and manipulates many principles governing everyday Nanti speech, as when poetic processes operative in the composition of *karintaa* verse respect certain constraints on syllable structure relevant to everyday spoken Nanti and at the same time serve to alter syllable structure. In these respects, *karintaa* chants can be understood as the creative redeployment of processes and structures in everyday Nanti speech. Second, *karintaa* chants also make crucial use, however, of *metrical constituents* that are absent in everyday Nanti speech, the poetic line and couplet in particular. And third, many principles governing the poetic well-formedness of Nanti *karintaa* have no clear counterparts in Nanti grammar *per se*, but do conform to principles familiar in linguistic theory, such as the tendency of marked structures to cluster at constituent edges. Formal principles governing the well-formedness of Nanti *karintaa* chants reflect, therefore, an interaction between 1) particular principles of Nanti grammar, 2) more general principles governing linguistic structures, and 3) principles which appear to have no counterpart in the everyday speech of *any* language.

*Karintaa* chanting is a genre of extemporaneous poetry performed by the residents of several small communities at the headwaters of the Camisea and Timpia Rivers in the southeastern Peruvian Amazon Basin, where the fieldwork on which this paper is based was carried out. The residents of these communities speak Nanti, an Arawakan language of the Kampan family. *Karintaa* chants are performed almost exclusively during village-wide feasts held roughly once every week. The social organization and significance of Nanti feasts and of *karintaa* chanting has been examined in detail by Christine Beier (2001, 2003).

This paper is based on a broader ethno poetic study of a corpus of approximately 1,500 *karintaa* verses composed by ten different Nanti individuals. This corpus shows that the basic structure of *karintaa* chants consists of repetitions of a given refrain, chosen from a repertoire of well over 50 such refrains, between which chanters interweave extemporaneous verses of their own making. Refrains are fixed pairings of melodic contours with strings of vocables, that is, sequences of referentially meaningless syllables (Hinton, 1980). Extemporaneous verses, on the other hand, are highly meaningful spontaneous compositions that are responses, more often than not, to the extemporaneous verses of other chanters. These verses vary tremendously in content, from serious political commentary and aggrieved personal criticism to hilarious sexual joking, all of which are typically performed dialogically to produce what might best be thought of as a type of poetic conversation. Consider the following brief portion of a *karintaa* chant:

- |     |                          |                     |
|-----|--------------------------|---------------------|
| (1) | <b>kee kage kagega</b>   | refrain             |
|     | <b>kee kage kagega</b>   |                     |
|     | <b>pikamantasanotake</b> | extemporaneous line |
|     | you.really.told.him      |                     |
|     | <b>iintii hobatyo</b>    | extemporaneous line |
|     | it.is Juan               |                     |

“You really told him that it was Juan”

**kaemakagakena**                      extemporaneous line  
(who) .called .me

**piikamantakero**                      extemporaneous line  
you .told .her

“who called me [to live there]. You told her [as well].”

**kee kage kagega**                      refrain  
**kee kage kagega**

My transcription, with its segmentation of the continuous sound stream of the chant into lines and couplets, is not analytically innocent, of course, and in fact raises questions that go to the heart of the issues that this paper seeks to address.

The initial segmentation of the chant into lines and couplets follows from attention to pause structure and melodic contours, both facets of verbal art that have emerged as critical diagnostics of line structure in the ethnopoetics literature, especially for indigenous verbal art in the Americas (Hymes, 1981; Sherzer, 1990; Sherzer & Urban, 1986; Sherzer & Woodbury, 1987; Tedlock, 1987; Woodbury, 1987). Both couplet boundaries and couplet-internal line boundaries are marked by pauses that are perceptibly longer than those found at line-internal word junctures. Couplet-edge pauses are in turn perceptibly longer than line-edge pauses, motivating the couplet as a unit distinct from the line. Significantly, couplets defined in terms of pause structure also correspond to the largest repeating melodic contour in a karintaa chant.

Even stronger motivation for positing the existence of lines and couplets in karintaa chanting comes from evidence that these two poetic units are *metrical constituents*. An examination of the karintaa corpus quickly reveals an intriguing regularity: the overwhelming majority of verses that are chanted with any particular refrain match the refrain in total *moraic* quantity.

Moras are the basic timing unit posited in metrical phonology, in which short vowels are assigned a single mora, symbolized by the Greek letter  $\mu$ , while diphthongs and long vowels, are assigned two moras. Consider the following word pairs in Nanti, in which the first syllable of each pair has the same vocalic melody, differing only in moraic quantity:

- |        |          |   |                                 |
|--------|----------|---|---------------------------------|
| (2) a. | samani   | $\mu$ $\mu$ $\mu$<br>         <br>sami ni             | “agouti (large rodent species)” |
| b.     | saamani  | $\mu$ $\mu$ $\mu$ $\mu$<br>\ /        <br>sami ni     | “distant”                       |
| (3) a. | nogakero | $\mu$ $\mu$ $\mu$ $\mu$<br>             <br>noga kero | “I put it [somewhere]”          |

- b.    **noogakaro**                       $\begin{array}{cccc} \mu & \mu & \mu & \mu \\ \backslash & | & | & | \end{array}$                       **nogakaro**                      “I consumed it”

Now consider the following sections of *karintaa* chants, in which the line’s total moraic quantity is indicated:

- (4)    **iinkiro iinki**                      7 moras                      refrain  
        **iinkiro bee**                      6 moras
- birorityo    tyamparo**                      7 moras                      couplet  
        you.contrast unexpected
- kogapage pini**                      6 moras  
        without you.speak
- “why you, on the other hand, speak carelessly”
- kogapage ontira**                      7 moras                      couplet  
        without it.is
- oburokityoo**                      6 moras  
        manioc.beer
- “carelessly because of the oburoki (manioc beer)”
- (5)    **kaapiroriira**                      7 moras                      refrain  
        **kaapirorii**                      6 moras
- taahena napor**                      7 moras                      couplet  
        come        Napor
- nokantanakempi**                      6 moras  
        I.say.to.you
- “Come here Napor, I say to you.”

Lines identified on the basis of melodic contour and pause structure also turn out to satisfy a metrical requirement that they match the corresponding line of the refrain in moraic quantity. Since lines do not typically constitute a syntactic constituent<sup>1</sup>, it is necessary to invoke the line as a metrical constituent in its own right in order to be able to state the metrical requirement governing *karintaa* chanting.

Significantly, the metrical requirements on the poetic line can have substantial effects on its lexical content. For example, one finds that words are truncated if they cannot fit entirely within the moraic window of the line. In the examples that follow, the first verse of each *karintaa* couplet ends with a truncated word, which is subsequently repeated in its entirety in the following verse.

- (6)    **kahaloni kahalo**                      7 moras                      refrain  
        **kaimite kaniro**                      7 moras

<sup>1</sup> The fact that lines do not systematically correspond to syntactic constituents is especially clear in Examples (6) and (7), where line edges truncate syntactic constituents in the middle of a word. Example (8) provides an example in which a verb appears in one line, and its object in another.

**hara nobichiro i-** 7 moras couplet  
will.not my.sister  
**i:kisakotatyo** 7 moras  
he.be.angry.about

“He will not be angry about my sister.”

- (7) **kee kage kakega** 7 moras refrain  
**kee kage kakega** 7 moras
- païro nopuhoo-** 7 moras couplet  
very  
**nopuhonkatakera** 7 moras  
I.rock.back.and.forth

“I am really rocking back and forth.”

Similarly, if words do not metrically fill out a line, they are augmented by a number of morphological and phonological processes, including the affixation of vocable morphemes (such as the suffix *-tyo*) and vowel lengthening. In the following examples, poetic augmentations of the line are underlined, and the total mora quantity of the line prior to augmentation, and subsequent to it, is indicated:

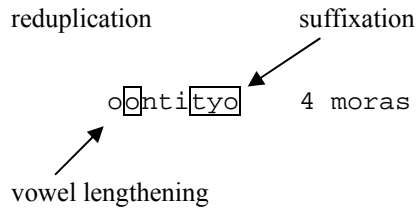
- (8) **kaapiroriira** 7 moras refrain  
**kaapirorii** 6 moras
- BEFORE AFTER
- haankityo naaro** 4 moras 7 moras  
will.not I  
**paasigatyoo** 4 moras 6 moras  
you.run.from

“You will never run from me.”

In arguing for the line as a metrical constituent, I have touched one of the major poetic processes operative in karintaa chanting: the alteration of the mora quantity of words used in everyday speech. Given that karintaa chanting is a radically extemporaneous genre, it seems reasonable to model the process of karintaa composition as the metrically-motivated on-line adjustment of everyday Nanti speech by means of a number of poetic processes.

We can also observe that these poetic processes are ‘conspiratorial’, in the sense that they all work to yield the same result (Kisseberth, 1970), namely, a poetic line with a certain mora quantity.

- (9) **asinchaha** 4 moras refrain  
**renketee** 4 moras
- tehenkatyo 4 moras couplet
- partial syllable      vocable
-

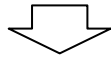


“It is not the case”

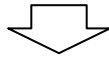
This suggests that a constraint-based model might be especially apt for describing karintaas, since constraint-based theories, such as Optimality Theory, have proven to be very successful in accounting for conspiratorial phenomena in phonology (Kager, 1999). In order to develop explicit descriptions of poetic processes in karintaa chants that can be directly compared with aspects of Nanti grammar, I will adopt an optimality theoretic descriptive framework from here on.

(10)

Input: *abab*



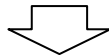
Generation of Candidates: *abab, abaa, aaba, baba, baab, etc.*



Evaluation of Candidates Against Constraint Hierarchy:

Constraint Hierarchy: Constraint A >> Constraint B >> Constraint C

	Constraint A	Constraint B	Constraint C
abab		*!	*
abaa	*!		*
aaba		*!	
baba √			*
baab	*!		
etc.			



Output of Optimal Candidate: *baba*

*An OT Symbol Bestiary:*

\*: Indicates a constraint violation

!: Indicates a fatal constraint violation

√: Indicates the optimal candidate

**A >> B: A outranks B**

**A, B: A is not critically ranked with respect to B**

The basic idea behind this approach to the formal modeling of linguistic systems is that grammars are systems of restrictions on linguistic forms, which serve to weed out unacceptable forms. Candidate forms, or inputs (essentially underlying representations), are evaluated in a single stroke against the restrictions, or constraints, that form the grammar. These constraints are taken to be universal, with the characteristics of particular grammars emerging from a language-specific ranking of constraints, which forces particular trade-offs between competing requirements on linguistic form. The specific model I will be working with is one in which the everyday speech forms serve as inputs into a canonical optimality theoretic constraint system. These inputs serve as the basis for generating a set of variant candidates that are evaluated with respect to a ranked set of violable constraints that stipulate, for example, conditions on output forms, on the relationship between the output and input forms, and on the relationship between outputs themselves. Each candidate is evaluated with respect to each constraint and, if it violates a particular constraint, it is assessed one or more asterisks, which are a kind of grammatical demerit point. The candidate that best satisfies the requirements of the constraint hierarchy surfaces as the output. This optimal candidate is the one whose highest-ranking constraint violation is lower than the highest-ranking constraint violation of all the other candidates.

The analytical task is thus to devise a set of constraints and to rank them with respect to one another, so that the inputs will yield the attested outputs. First, we need a set of constraints that enforces the basic characteristic of extemporaneous lines, namely, that they match their associated refrain in total moraic quantity. This can be achieved with an output-output constraint, a type of constraint that enforces correspondences between outputs, in this case between the moraic quantity of the output forms of the refrain and the extemporaneous line.

(11) OO-RfLn( $\mu$ ): The moraic quantity of a given extemporaneous line is identical to the moraic quantity of the corresponding refrain line. One \* is assessed to the extemporaneous line for each mora over or under the number of moras in the refrain.

However, to guarantee that this requirement is met not by altering the refrains but by altering the couplets, since this is what we find empirically, we also need an input-output constraint that preserves the moraic quantity of the refrain, like the following:

(12) Faith-Rf( $\mu$ ): The moraic quantity of a refrain line at output must be identical to its moraic quantity at input.

We can also assume that extemporaneous lines are subject to the same constraint:

(13) Faith-Ln( $\mu$ ): Each mora in the input form of an extemporaneous line must correspond to a mora in the output form.

However, this constraint is lowly ranked in the constraint hierarchy. In other words, we do sometimes find input (everyday) and output (poetic) forms that differ in their total number of moras. The following constraint ranking serves to account for the basic fact that extemporaneous lines undergo augmentation in order to fulfill the metrical requirements of the line:

(14) Faith-Rf( $\mu$ ), OO-RfLn( $\mu$ )  $\gg$  Faith-Ln( $\mu$ )

I refer those interested to the tableau<sup>i</sup> illustrating this claim, but the basic idea is the following: The faithfulness constraint preserving the moraic quantity of the refrain is undominated, meaning that altering the moraic quantity of the refrain will lead to a fatal violation. The constraint preserving the moraic quantity of the extemporaneous line, however, is low-ranking, and is dominated by the constraint requiring that refrains and lines match in moraic quantity. In order to avoid violating this latter constraint, the optimal form incurs violations of the lower-ranking faithfulness constraint, resulting in a moraicly-augmented line.

One of the most important poetic processes operative in karintaa composition for satisfying the requirement that extemporaneous verses match their refrains in total moraic quantity is vowel lengthening, which we have seen already. An examination of the corpus shows that vowel-lengthening in karintaa chants follows two basic principles: 1) Vowel lengthening overwhelmingly occurs at word edges and, in particular, at the left edge of the word, and 2) a vowel cannot be lengthened beyond two moras.

The first observation can be accounted for with the following constraint, which requires that moras in a word line up with the left-edge of the word:

(15) Align-L( $\mu$ , PrWd): Any given mora must align with the left edge of the prosodic word to which it pertains. One \* is assessed for each vocalic segment that intervenes between each mora and the left edge of the prosodic word to which it pertains.

This constraint has an unfortunate side effect, however, in that, unchecked, it would pull *all* the moras of a word to the left edge. This means that we need a constraint that guarantees that syllables retain the moras that they have at input.

(16) Faith- $\sigma$ ( $\mu$ ): Each syllable has the identical number of moras at output that it had at input. One \* is assessed for each mora by which the output differs from the input.

The following ranking ensures that only moras that are introduced *between* input and output are attracted to the left edge of the word:

(17) Faith-Rf( $\mu$ ), OO-RfLn( $\mu$ )  $\gg$  Faith-Ln( $\mu$ )  $\gg$  Faith- $\sigma$ ( $\mu$ )  $\gg$  Align-L( $\mu$ , PrWd)

Those interested will find the relevant tableau in the endnote,<sup>ii</sup> but the basic idea is the following: the output-output constraint outranks Faith- $\sigma$ , which means that it is worth violating Faith- $\sigma$  if it helps the line match the refrain in total moraic quantity. However, since Faith- $\sigma$  ( $\mu$ ) outranks the mora alignment constraint, the alignment constraint will not pull moras off of syllables present at input, since doing so would not improve the total moraic quantity of the line. On the other hand, if a mora is added between input and output in order to satisfy the high-ranking output-output constraint on the total moraic quantity of the line, that mora will incur a violation regardless of where it surfaces at input and, consequently, the moras will align with the left edge of the word to satisfy the low-ranking alignment constraint.



We have one more issue to address: syllables in karintaa are maximally bimoraic. One does not encounter trimoraic words in karintaa, although they could be very helpful from a metrical perspective. We can assume that there is a highly-ranked constraint, like the following, which does not permit a syllable to be associated with more than two moras

- (18) Binary Syllable: A syllable may be associated with at most two moras. One \* is assessed for each mora beyond this maximum.

Adding this constraint to the constraint hierarchy in the indicated position accounts now for the basic behavior of poetic vowel-lengthening:

- (19) Faith-Rf( $\mu$ ), Binary Syllable, OO-RfLn( $\mu$ ) >> Faith-Ln( $\mu$ ), Faith- $\sigma$ ( $\mu$ ) >> Align-L( $\mu$ , PrWd)<sup>iii</sup>

With this explicit analysis in hand, I now want to draw your attention to several aspects of the preceding analysis. First, we see that although extemporaneous lines acquire additional moras to satisfy metrical requirements, this process obeys the constraint that syllables can have at most two moras. This constraint is also operative in everyday Nanti speech. Megan Crowhurst and I (Crowhurst & Michael, forthcoming) have shown that this constraint plays an important role in determining when diphthongs are formed in everyday Nanti speech.

Second, all of the classes of constraints employed in the preceding analysis, be they output-output constraints, faithfulness constraints, or alignment constraints, are all used by linguists to account for everyday phonological processes within a optimality theoretic framework. Moreover, with the crucial exception of those constraints that make direct reference to the refrain and line, all the specific constraints I employed are used by linguists in phonological analysis. Thus, although vowel-lengthening is a process restricted to a poetic genre among Nanti speakers, it looks in most respects very much like an everyday linguistic process.

Third, it is necessary to introduce the poetic line as a formal constituent. This constituent does not bear any obvious relation to metrical constituents found in everyday Nanti speech, such as the prosodic foot, and as the cases of truncation show, actually appears to run roughshod over extant prosodic constituents.

What, then, do the Nanti karintaa facts tell us that can be applied to the study of the relationship between poetry and language more generally? First, the explicit analysis of karintaa chanting shows that there are three senses in which one can speak of poetry being an extension or redeployment of everyday language: In one sense, poetry can be understood as being shaped by grammatical principles operative in everyday speech, as when everyday grammatical utterances serve as inputs into the composition of karintaa verses, or when poetry must obey the same well-formedness criteria as everyday speech, as in the case of maximal bimoraicity of syllables. In a second sense, poetry can be understood to be shaped by principles that are *not* operative in the everyday speech of the associated language, but which *do* form part of the pool of structuring principles available to human languages as a whole. This may include principles that are identical to ones operative in other languages, such as the constraint that aligns moras to the left edge of prosodic words, which Crowhurst (2004) has argued is operative in several languages, including Hopi. And, in a third sense, the principles governing poetic well-formedness may be systematic *extensions* of extant principles to encompass poetic constituents, as in

the case of the output-output constraint that I employed to ensure that extemporaneous lines match their refrains in moraic quantity.

The second point that the Nanti facts make clear is that at least some genres of poetry involve poetic constituents that are not reducible to linguistic constituents already present in the grammar of the language, which accords with Sherzer's (1987) observations regarding lines in Kuna verbal art. In this respect, then, at least some forms of poetry are not *solely* an outgrowth of everyday language, but rather the intersection of everyday language with other structuring principles.

The scope of this observation is uncertain: while it probably holds for classical quantitative meters, English iambic pentameter, and the like, many poetic genres of the Americas, such as Chinookan narrative (Hymes, 1981), may not require that lines be posited as *independent* constituents. In these latter traditions, lines instead appear to emerge through the successive layering of linguistic material and structures available from the grammar of the language, without the need to posit the existence of specifically poetic constituents. We will likely need to consider a broad set of poetic traditions before it becomes clear whether we are seeing signs of a robust typological difference in poetic traditions, or if one or the other conception of the line needs to be discarded.

It has been argued until very recently that metrical poetic genres are absent among the indigenous societies of the Americas (Edmonson, 1971; Tedlock, 1977), a proposition that is increasingly coming to seem like a testament to how much waits to be learned (Fitzgerald, 1998; Hinton, 1984), rather than a sign of how learned we are. I believe that maintaining a commitment to ethnographically *and* linguistically informed studies of verbal art in the Americas will continue to surprise us, leading both to insights regarding the cultures of this part of the world and also to clues regarding our shared humanity as linguistic creatures. I hope that if nothing else I have given you a glimpse of the richness and complexity of Nanti *karintaa* chanting and, consequently, an idea of some of the remarkable discoveries that still await us.

### References

- Beier, C. (2001). *Creating community: Feasting among the Nantis of Peruvian Amazonia*. Unpublished master's thesis, University of Texas, Austin, TX.
- Beier, C. (2003). Creating community: Feasting and chanting among the Nantis of Peruvian Amazonia. In I. Mey, G. Pizer, H.-Y. Su & S. Szmania (Eds.), *Proceedings of the tenth annual Symposium About Language and Society—Austin, Texas Linguistics Forum*. (pp. 1-10). Austin: University of Texas, Department of Linguistics.
- Crowhurst, M. (2004). Mora alignment. *Natural Language and Linguistic Theory*, 22 (1), 127-177.
- Crowhurst, M. & Michael, L. (forthcoming). Iterative footing and peak prominence in Nanti (Kampa). *Language*.
- Edmonson, M. (1971). *Lore: An introduction to the science of folklore and literature*. New York: Holt, Rinehart & Winston.
- Fitzgerald, C. (1998). The meter of Tohono O'odham Songs. *IJAL*, 64, 1-36.
- Friedrich, P. (1986). *The language parallax: Linguistic relativism and poetic indeterminacy*. Austin: University of Texas Press.

- Hinton, L. (1980). Vocables in Havasupai music. In C. Frisbi (Ed.), *Southwestern Indian ritual drama*. Albuquerque: University of New Mexico Press.
- Hinton, L. (1984). *Havasupai songs: A linguistic perspective*. Tübingen: Gunter Narr.
- Hymes, D. H. (1981). Discovering oral performance and measured verse in American Indian narrative. In D. H. Hymes (Ed.), *In vain I tried to tell you*. (pp. 309-341). Philadelphia: University of Pennsylvania Press.
- Jakobson, R. (1981). Linguistics and poetics. In S. Rudy (Ed.), *Roman Jakobson: Selected writings III*. (pp. 18-51). New York: Mouton.
- Kager, R. (1999). *Optimality Theory*. New York: Cambridge University Press.
- Kisseberth, C. (1970). On the functional unity of phonological rules. *Linguistic Inquiry*, 1, 248-82.
- Sherzer, J. & Urban, G. (Eds.). (1986). *Native South American discourse*. New York: Mouton de Gruyter.
- Sherzer, J. & A. C. Woodbury. (1987). *Native American discourse: Poetics and rhetoric*. New York: Cambridge University Press.
- Sherzer, J. (1987). Poetic structuring of Kuna discourse: The line. In J. Sherzer & A. C. Woodbury (Eds.), *Native American discourse: Poetics and rhetoric*. New York: Cambridge University Press.
- Sherzer, J. (1990). *Verbal art in San Blas: Kuna culture through its discourse*. New York: Cambridge University Press.
- Tannen, D. (1989). *Talking voices: Repetition, dialogue, and imagery in conversational discourse*. New York: Cambridge University Press.
- Tedlock, D. (1977). Towards an oral poetics. *New literary history*, 8, 507-519.
- Tedlock, D. (1987). Hearing a voice in an ancient text: Quiché Maya poetics in performance. In J. Sherzer & A. C. Woodbury (Eds.), *Native American discourse: Poetics and rhetoric*. (pp. 140-175). New York: Cambridge University Press.
- Woodbury, A. C. (1987). Rhetorical structure in a Central Alaskan Yupik Eskimo traditional narrative. In J. Sherzer & A. C. Woodbury (Eds.), *Native American discourse: Poetics and rhetoric*. (pp. 176-239). New York: Cambridge University Press.

Department of Anthropology  
University of Texas at Austin  
Austin, TX 78712  
lmichael@mail.utexas.edu

<sup>i</sup> Input: *hanki naro*

	Faith-Rf( $\mu$ )	OO-RfLn( $\mu$ )	Faith-Ln( $\mu$ )
<b>kaapiroriira</b> <i>hanki naro</i>		*!***	
<b>kapirori</b> <i>hanki naro</i>	*!***		
<b>kaapiroriira</b> <i>haanki naaro</i>		*!	**
<b>kaapiroriira</b> <i>haankityo naaro</i> ✓			***

Output: *haankityo naaro*

ii Input: *hanki naro*

	Faith- Rf( $\mu$ )	OO- RfLn( $\mu$ )	Faith- Ln( $\mu$ )	Faith- $\sigma$ ( $\mu$ )	Align-L( $\mu$ , PrWd)
<b>kaapiroriira</b> <i>hanki naro</i>		*!***			**
<b>kaapiroriira</b> <i>hankiityo naroo</i>			***	**	****!*
<b>kaapiroriira</b> <i>haankityo naroo</i>			***	**	****!
<b>kaapiroriira</b> <i>haankytyo naaroo</i>			***	****!	***
<b>kaapiroriira</b> <i>haankityo naaro</i> ∨			***	**	***

Output: *haankityo naaro*

iii Input: *hanki naro*

	Binary Syllable	OO- RfLn( $\mu$ )	Faith- Ln( $\mu$ )	Faith- $\sigma$ ( $\mu$ )	Align-L( $\mu$ , PrWd)
<b>kaapiroriira</b> <i>hanki naro</i>		*!***			**
<b>kaapiroriira</b> <i>haaaanki naro</i>	*!*		***	***	**
<b>kaapiroriira</b> <i>haanki naaaro</i>	*!		***	***	**
<b>kaapiroriira</b> <i>haankityo naaro</i> ∨			***	**	***

Output: *haankityo naaro*