

Stress, length, and moraic trochees in Northern Tiwa Picurís

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0. INTRODUCTION

- Northern Tiwa branch of Kiowa Tanoan, in central New Mexico
- closely related to Taos

Prominence in Picurís

- Two competing descriptions:

Harrington (1910); Harrington & Roberts (1928)	vs.	Trager (1942); Trager (1971); and subsequent work
- No stress in Picurís		- Stress and tone-based
- “syllables are pronounced with force so nearly equal that stress accent has not been indicated.” (1910)		- No length distinctions recorded
- Length		

Claim

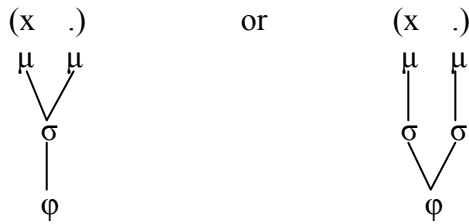
- Picurís is a quantity-sensitive language where the basic unit of the moraic trochee governs both stress and syllable weight.
- Evidence:
 - syllable structure
 - diphthongs
 - minimal word size
 - preference for even-parity forms
 - length alternations
 - segmental alternations
 - interaction of stress and length

Data

- free-standing nouns with noun marker *-(V)ne* (unincorporated with verb)
- Harrington and Roberts (1928): 21 Picurís children’s stories and 8 folkways.
- in-line glossing by Campbell et al. (2006)
- data from later work by Trager, G. (1943); Trager, F. (1971); and Zaharlick (1981).

1. THE BIMORAIC FOOT IN PICURÍS

- Moraic trochee (Hayes 1995)



1.1 Syllable structure and diphthongs

- Maximum syllable size = bimoraic foot.

(1) CVV

a. hui ‘carry’

CVN: sonorant codas [l], [m], [n]

b. wən ‘one’

CVX: non-sonorant codas licensed by assimilation to following onset consonant.

c. təpupe ‘northeast’

- Certain VV sequences may co-occur with a following vowel or in a closed syllable.

(2) mono-moraic diphthongs

a. hiaulon ‘early’

b. phu:lian ‘last’

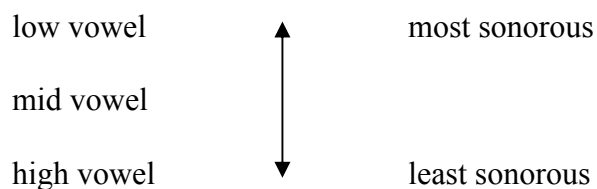
adjacent vowels (not diphthongs)

c. nowai ‘every night’

d. thəppiu ‘towards home’

- Mono-moraic diphthongs are a restricted set where the first vowel must be lower in sonority than the second.

(3) Sonority scale for vowels



- Prince (1983): in a heavy syllable, the first mora should be more sonorous than the second because it is the head of a bimoraic foot.
- Nucleus of the syllable (and first mora) must be a sonority peak. Following decrease in sonority signals the presence of a coda-like second mora.
- Vowel-vowel sequences with decreasing sonority cannot be mono-moraic diphthongs.

Further evidence:

- All diphthongs in Taos also exhibit a rising sonority hierarchy. (Trager 1946)
[ie], [ia], [uo], [əo], [iɛ]

1.2 Minimal word sizes

- Free-standing function words may be mono-moraic.

(4) 'aʎiulanɛ pa mɛkiahɛn
A::3g-wife-N AGT feed-PSV-SEQ
'his wife had given him his supper'

- No free-standing content word may be shorter than a bimoraic foot.

(5) a. p'ɪnɛ
road-N
'road'
b. p'ɪwaitha
road-side-at
'beside the road'
c. *p'ɪ

2. FOOTING AND LENGTH

- A significant majority of free-standing Picuris nouns in H&R (1928) exhibit an even number of moras.
- 118 nouns total | 91 even-parity (~77%) | 27 odd-parity (~28%)
- Dispreference of degenerate feet of fewer than two moras.
- **Length variability:** though length within a form may vary in position, words maintain bimoraic foot structure.

(6) a. k'ə:nenɛ 'beads-N' (k'ə:)(nenɛ)
b. k'ənɛnɛ 'beads-N' (k'ənɛ)(enɛ)
c. tə:pɔnɔpɛ:wɛnɛ 'teacher-N' (tə:)(pɔnɔ)(pɛ:)(wɛnɛ)
d. tə:pɔnɔpɛ:wɛnɛ 'teacher-N' (tə:)(pɔnɔ)(pɛwɛ)(enɛ)

- R → L footing

2.1 Variation in glides and high vowels

➤ High vowels of a root will vary in syllabification according to foot structure.

- (7)
- | | | | |
|----|-------------|-----------------|-------------------|
| a. | thøi | ‘paint (root)’ | |
| b. | thø:ienə | ‘paint-N’ | (thø:)(ienə) |
| c. | thøičəl’ənə | ‘blue paint-N’ | (thøi)(čəl)(’ənə) |
| d. | thøiɸon’ənə | ‘black paint-N’ | (thøi)(ɸon)(’ənə) |

➤ High vowels vs. glides

- (8)
- | | | | |
|----|----------|----------|----------------------------|
| | Picurís | Taos | |
| a. | t’a:ienə | t’a:yənə | ‘creature/Earth dweller-N’ |
| b. | či:uenə | či:wənə | ‘eagle-N’ |
| c. | kə:ɸənə | kə:wənə | ‘owl-N’ |

2.2 Exceptions: odd-parity words

Syllabification of sonorant consonants

- (9)
- | | | | |
|----|---------------------|---------------------------------|------------|
| a. | xwel- | ‘pipe (root)’ | |
| b. | <u>xwel</u> ləm̩mia | ‘gave him a pipe’ | |
| c. | ləm̩miapu’e | ‘the object that was given him’ | (*ləm̩mia) |
| d. | xwelenə | ‘pipe-N’ | |

➤ Sonorants may be syllabified as onsets or codas, to maintain bimoraic footing.

- (10)
- | | |
|----|--------------|
| a. | ?(xwe)(lene) |
| b. | (xwel)(ene) |

- (11)
- | | | | |
|----|--------|---------------|------------|
| a. | lɔl- | ‘rain (root)’ | |
| b. | lɔlpa | ‘with rain’ | |
| c. | lɔlenə | ‘rain-N’ | (lɔl)(enə) |

Morphological conditioning

➤ Nichols (1994): Taos noun stress assigned by noun marker and inflectional suffixes.
 ➤ Possible morphological alternation in Picurís: singular ~ plural?

- (12)
- | | | |
|----|---------|-----------------|
| a. | k’aŋə | ‘jackrabbit-N’ |
| b. | k’a’ənə | ‘jackrabbits-N’ |

- But, variation:

(13) səneŋ ~ sə:neneŋ

singular

- a. məŋčoho wən thołanən **səneŋ** tə:puppe p'ɪlamən
 presently one evening-N man-N northeast road-along
 'One evening a man was coming home from the northeast'
- b. məŋčoho nɔpi:n'au wən **sə:neneŋ** pa ɰi:ueŋ tɰə:mia.
 then night-half-at one man-N AGT woman-N find
 'And then at about midnight one man found the woman.'

plural

- c. **səneŋ** haɰ ɰi:ueŋ
 man-N and woman-N
 'men and women'
- d. ɰi:ueŋ **sə:neneŋ** pa t'əphaliahu
 woman-N man-N AGT scold-PSV-IMPF
 'The woman was scolded very much by the men.'

3. STRESS AND LENGTH

- Stress patterns from Trager data: main stress on penultimate syllable, with alternating secondary stress on preceding syllables, from right to left.

Attested stress patterns

- (14) (σ̇ σ)
- a. p'ine 'road-N'
- b. kíane 'mother-N'
- (σ̇)(σ̇ σ)
- c. t'ònéne 'back (body part)-N'
- d. p'ínéne 'mountain-N'
- e. kwèléne 'girl-N'
- (σ̇ σ)(σ̇ σ)
- f. màko'óne 'grandchild-N'

- Primary stress on initial mora of final bimoraic foot, with secondary stress on initial moras of preceding feet.

- (15) a. (σ̇) (σ̇ σ) b. (σ̇) (σ̇ σ)
- | | | ^ | |
- * (μ) (μ μ) (μ μ)(μ μ)

- **Trager’s Lengthening Rule**

“a reduplicated vowel... occurs under Low tone with medial stress before a primary stress.”
(Trager, F. 1971)

(16)	Trager (1971)	H&R (1928)	
	a. caxône	ča:həne	‘wizard/witch-N’
	b. pə'ône	pə:əne	‘fish-N’
	c. tʰòlénə	tʰo:lene	‘sun-N’
	d. t'àyéne	t'a:ienə	‘creature/Earth-dweller-N’
	e. piwéne	pi:uenə	‘rabbit-N’

➤ Syllable length prevents potential stress clash at the moraic level.

4. A BRIEF NOTE ON TONE

- Trager (1971) and Zaharlick (1981) allude to an effect on length when stress and tone are combined.

(17) from Trager (1971): hypothesized scale of syllable weight in relation to stress and tone combinations

	Stress	Tone	Expected syllable weight
σ́	primary	low	Heavy ↑ ↓ Light
σ́	primary	middle	
σ́	primary	high	
σ̀	medial	low	
σ̀	medial	middle	
σ̀	medial	high	

- Comparison between H&R (1928) and Trager (1971) produces inconclusive results.

Expected syllable weights

(18)	Trager (1971)	H&R (1928)	
	a. pâm'emǒ	<u>pam</u> 'onə	‘flower-N’
	b. sónene	<u>sə</u> :nenə	‘man-N’

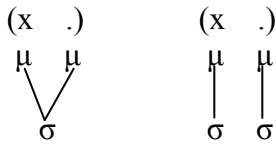
Unexpected syllable weights

(19)	Trager (1971)	H&R (1928)	
	a. piwéne	<u>pi</u> :uenə	‘rabbit-N’
	b. 'ó'ónə	' <u>o</u> :onə	‘child-N’

5. CONCLUSION

Reconciling competing theories of Picurís prominence:

- Basic foot structure = moraic trochee, realized as either one heavy or two light syllables.



- R → L footing
 - Diphthongs, with rising sonority profile = μ
 - Vowels and syllable codas (sonorants) = μ
 - Primary stress on final foot
- Picurís exhibits many of the characteristics typical of bimoraic footing, quantity-sensitive languages, including syllable and word size restrictions, sensitivity to sonority contours, a preference for even-parity words, a dispreference for odd-parity words, and the avoidance of stress clash at the moraic level.

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