

Intonational marking of narrative and syntactic units in a Dena'ina text

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SSILA

Dena'ina Language

- Also known as Tanaina
- Alaskan Athabascan
- Spoken by < 60 people
- Non-tonal language



In order to investigate sentence intonation

- We would record a Dena'ina text
- We would ask a Dena'ina speaker to break it up into meaningful units ("utterances")
- We would measure each syllable for duration and pitch to see if that gives clues about utterance breaks

Dlin'a Sukdu: Mouse Story

- Told by Mary Hobson on June 6th, 2006, at the Dena'ina Language Institute
- Transcribed and translated by Aggie Alexie and Olga Lovick on June 7th, 2006
- Transcript was modified and corrected subsequently by Olga Lovick and James Kari

Dlin'a Sukdu: Mouse Story

- A classical lesson story about respectful behavior towards animals
- Told in several other versions by other Dena'ina story tellers; e.g. by Peter Kalifornsky (1974, 1999) and by Albert Wassillie (1975)

Dlin'a Sukdu: Mouse Story

- During transcription, the daughter of the storyteller was asked to break the story up into meaningful units ("utterances")
- These units were numbered in the current version
- No other criteria for sentence demarcation were applied

Question

- Is the segmentation done by the translator supported by intonation?

Expectations

Following results by Holton (2000), Tuttle (1998, 2005), we expect to find:

- Final lowering at the end of units
- Final lengthening at the end of units

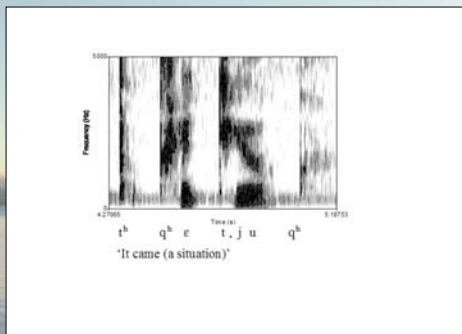
Methods

- Measure each syllable for rhyme length
- Measure each syllable at two points for pitch (F0)
- See whether there is a significant difference between syllables in different positions within a unit

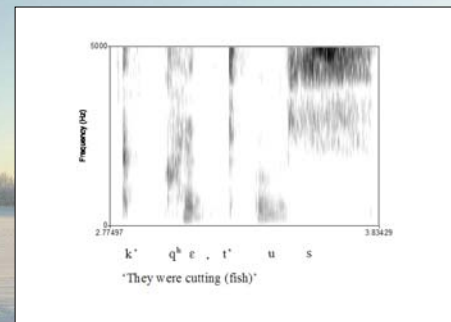
Dena'ina syllables

- Coda is limited to one consonant
- Onset is limited to three consonants
- (C)(C)CV(C)

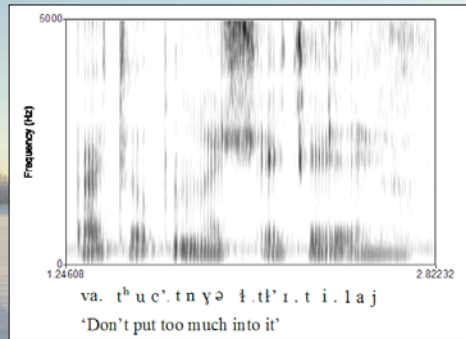
Dena'ina syllables



Dena'ina syllables



Dena'ina syllables

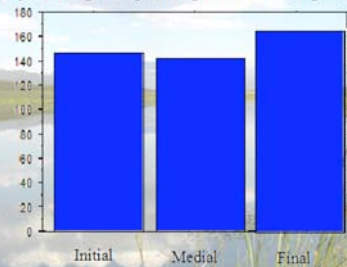


Results: Length

| | Count | Mean | Std Dev | Std Err |
|-----------|-------|---------|---------|---------|
| • Initial | 88 | 147 ms. | 83 | 8.8 |
| • Medial | 628 | 142 ms. | 77 | 3.1 |
| • Final | 77 | 166 ms. | 104 | 11.8 |

Results: Length

Rhyme length depending on utterance position



Results: Length

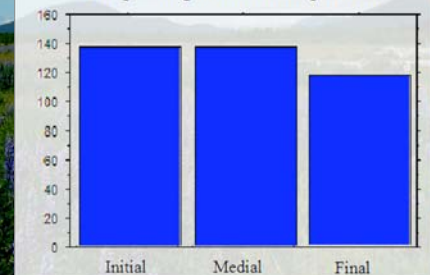
- We observe significant lengthening of the final syllable of an utterance

Results: Pitch

| | Count | Mean | Std Dev | Std Err |
|---------|-------|-------|---------|---------|
| Initial | 83 | 137.1 | 17.6 | 1.9 |
| Medial | 604 | 137.4 | 89.5 | 3.6 |
| Final | 72 | 117.7 | 14.2 | 1.7 |

Results: Pitch

F0 depending on utterance position

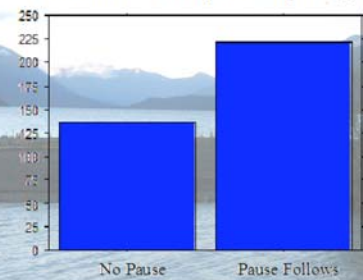


Results: Pitch

- We observe significant final lowering

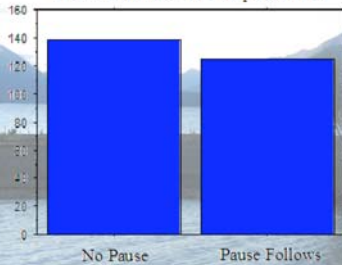
Pauses

Effect of utterance-internal pause on rhyme length



Pauses

Effect of utterance-internal pause on F0



Pauses

- All pauses trigger final lengthening
- Pauses do not trigger final lowering
- Final lowering can only be observed at unit boundaries

Conclusion

- Rhyme lengths are longer in unit-final position, and also preceding pause. Both conditions are statistically significant, but unit-internal pause preceders show a bigger effect.
- F0 is lower at the ends of units, and this is a significant finding. Unlike with rhyme length, F0 is not lower preceding pauses within units.

Conclusion

- Dena'ina narrative units are not necessarily identical with syntactic units (clauses, sentences)
- They are marked by final lengthening and by final lowering

Acknowledgements

- Mary Hobson
- Gladys Evanoff
- Aggie Alexie
- James Kari



What constitutes a sentence?

- A tensed, non-relativized verb ends a sentence
(1) mhm003

| | | | |
|--|----------|---------|------------------------|
| Guna | qeshqa | vey'a | k'qet'us. |
| these locals | rich man | his son | they were cutting fish |
| 'Those people and the rich man's son were cutting fish.' | | | |

- **Problem:** Not every tensed verb appears in sentence final position

What constitutes a sentence?

(2) mhm015

| | | | | | |
|--|--------------|------------------------|---------------|-------|---------|
| Shi | q'in | shla | au'ut | ha, | chuk'a |
| Evid | fish egg | little | he carries it | while | suck |
| ggaya | jengheshyu | I try to climb over it | | ha | t'ih'ni |
| little | he would try | | | | |
| yeqa delzex | ha | yejenyeli'eh. | | | |
| he extended his foot | and | he lifted his foot | | | |
| 'Him, carrying that little fish egg, trying to climb that little suck, he helped him with his foot.' | | | | | |

What constitutes a sentence?

- Anything that ends in a sentence-final particle
shit etc. 'Evidential'
du/da 'Question'
ch'u/ha' 'and'
lu 'it is said'

- **Problem:** some of these particles are clause final and not sentence-final

What constitutes a sentence?

(3) mhm048

| | | |
|-----------------------------------|----------------|------------|
| "Zilt'a'en," | yelni | lu. |
| you, burning her | he said to him | it is said |
| "You burnt her," he said to him.' | | |

(3) mhm036

| | | | | |
|------------------------|------------|--------|------------------------------------|--------|
| Ey gu | lu | alin'a | qptighlmana | abila. |
| and then | it is said | mouse | he had a little trail going inside | |
| 'Into the mouse hole.' | | | | |

Application of criteria to Mouse Story

- Units that contain exactly one verb and one sentence-final particle are correctly interpreted as sentences
- Units containing more than one verb, one relativized verb, or no verb, are not