

Say What? Wh-Question Intonation in Hul'q'umi'num'

Isabel Churton and Kathryn Harder, with Gina Salazar
Ling 486: Experimental Phonetics

Introduction

- Hul'q'umi'num' is a Coast Salish language spoken on Vancouver Island and the Gulf Islands near Cowichan, Nanaimo, and Chemainus
- Speakers:**
 - 40 fluent first language speakers (L1)
 - 20 fluent second language learners (L2)
 - Over 1000 semi-fluent speakers and language learners

Research Questions

What is the intonation pattern in *wh*-questions and declarative responses in Hul'q'umi'num'?

Previous Research

Ladd's Universalist Hypothesis (1981, 2008): A sentence final rise in pitch is a universal question marker
* Not the case for Hul'q'umi'num'

Benner (2005): Observed no sentence final rise in questions in Salish languages

Jacobs (2007): Examined the intonation patterns of yes/ no questions in contrast with declarative statements in Squamish. Found that although the yes/ no questions were produced at a higher pitch compared to the declarative questions, both followed a phrase final declination pattern and thus followed a similar intonation pattern

Oberg (2007): Found data to suggest the presence of a word level rising pitch contour on *wh*-questions in St'át'imcets

Caldecott (2016): Observed a phrase final declination pattern and perceived higher pitch in question phrases relative to declarative statements in St'át'imcets

Methodology

- Participants:** 1 first language (L1) speaker of Hul'q'umi'num' from the HLCC
- Task:** The participant was shown one of the pictures below
 - The *wh*-questions or declarative response was spoken in English and the L1 speaker was asked to repeat it in Hul'q'umi'num'
 - Who, What and Where** were elicited through these questions



Figure 1. Elicitation Picture #1

Who is in the picture?/A young girl is in the picture
Nilh lhwet thu 'i shxuxaath'us?/ Q'e'mi' thu 'i shxuxaath'us

What is she wearing?/She is wearing a traditional blanket
Stem 'a'lu tthu 'i ha'kwushus?/ 'E'uth ha'kwushus thu swuqw'a'



Figure 2. Elicitation Picture #2

Where was this picture taken?/ It was taken at Quamichan Lake
Ni 'untsu kwus hwxaath'usstum thu s'eluhw slheni'/?
Kwa'mutsun xatsa' tthu kwus hwwuxaath'usstum'

Data Analysis

Guide:

The blue line indicates the pitch contour. Pitch measurements were taken across each syllable in the phrase. Please note that we have chosen to represent the vowel as the nucleus of the syllable.

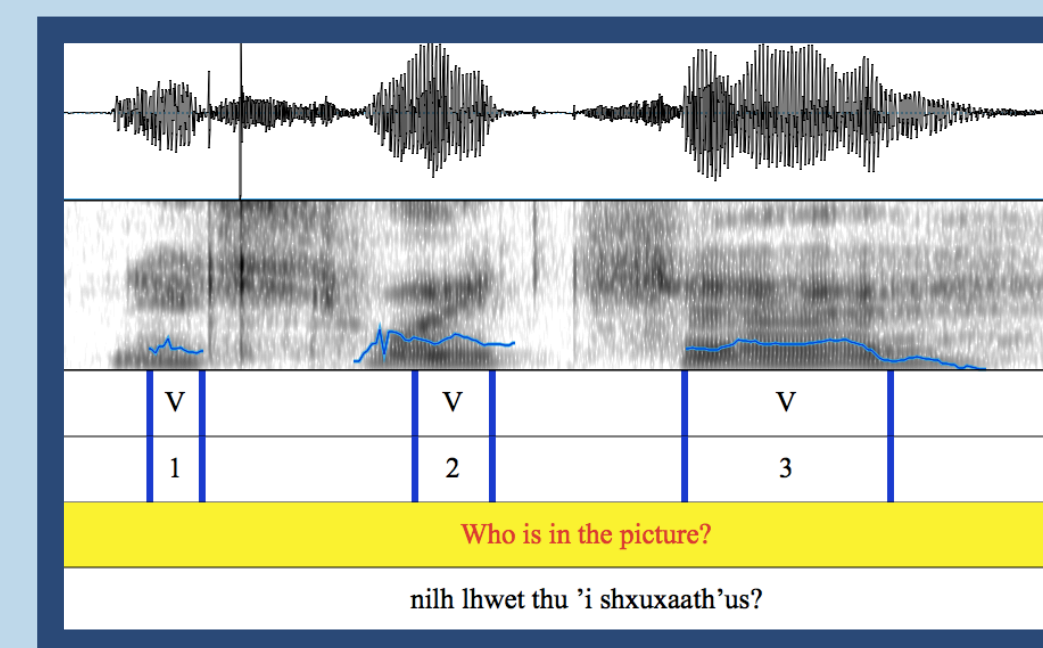


Figure 3. Example question text grid in Praat

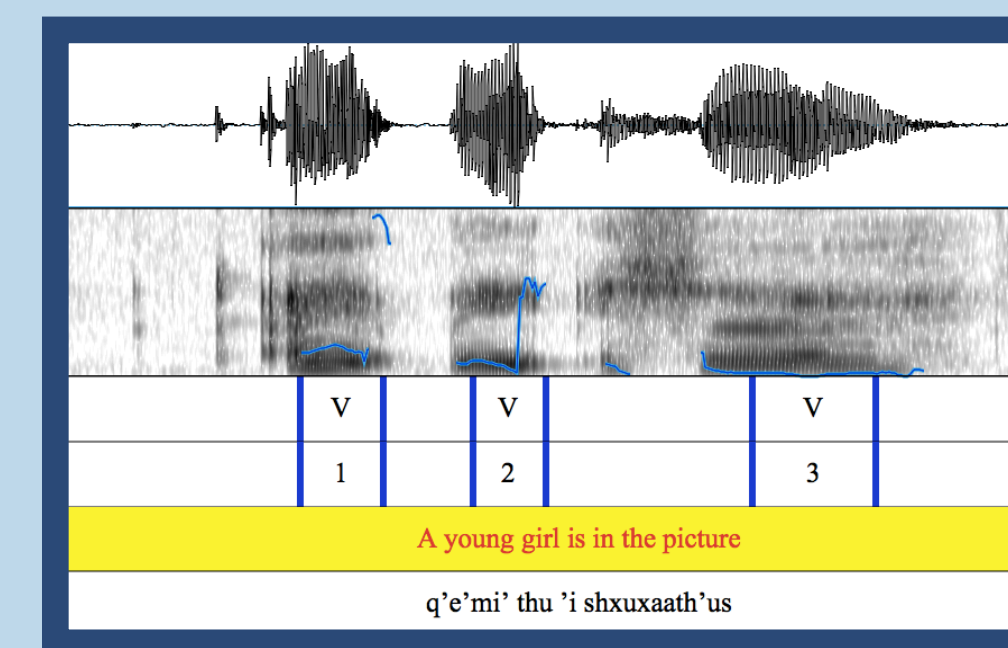


Figure 4. Example declarative text grid in Praat

Results

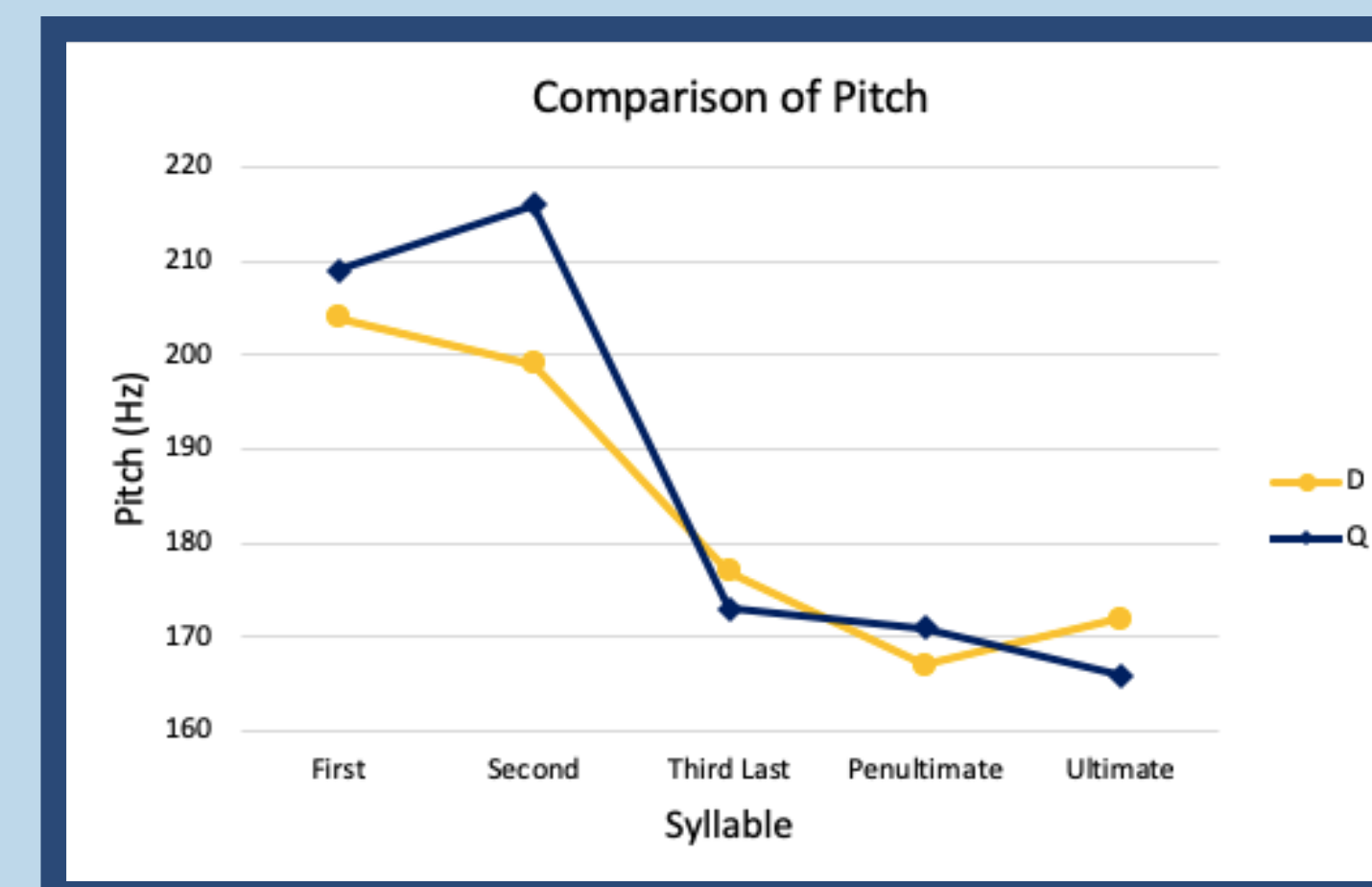


Figure 5. Comparison of Intonation Pattern in Question and Declaratives

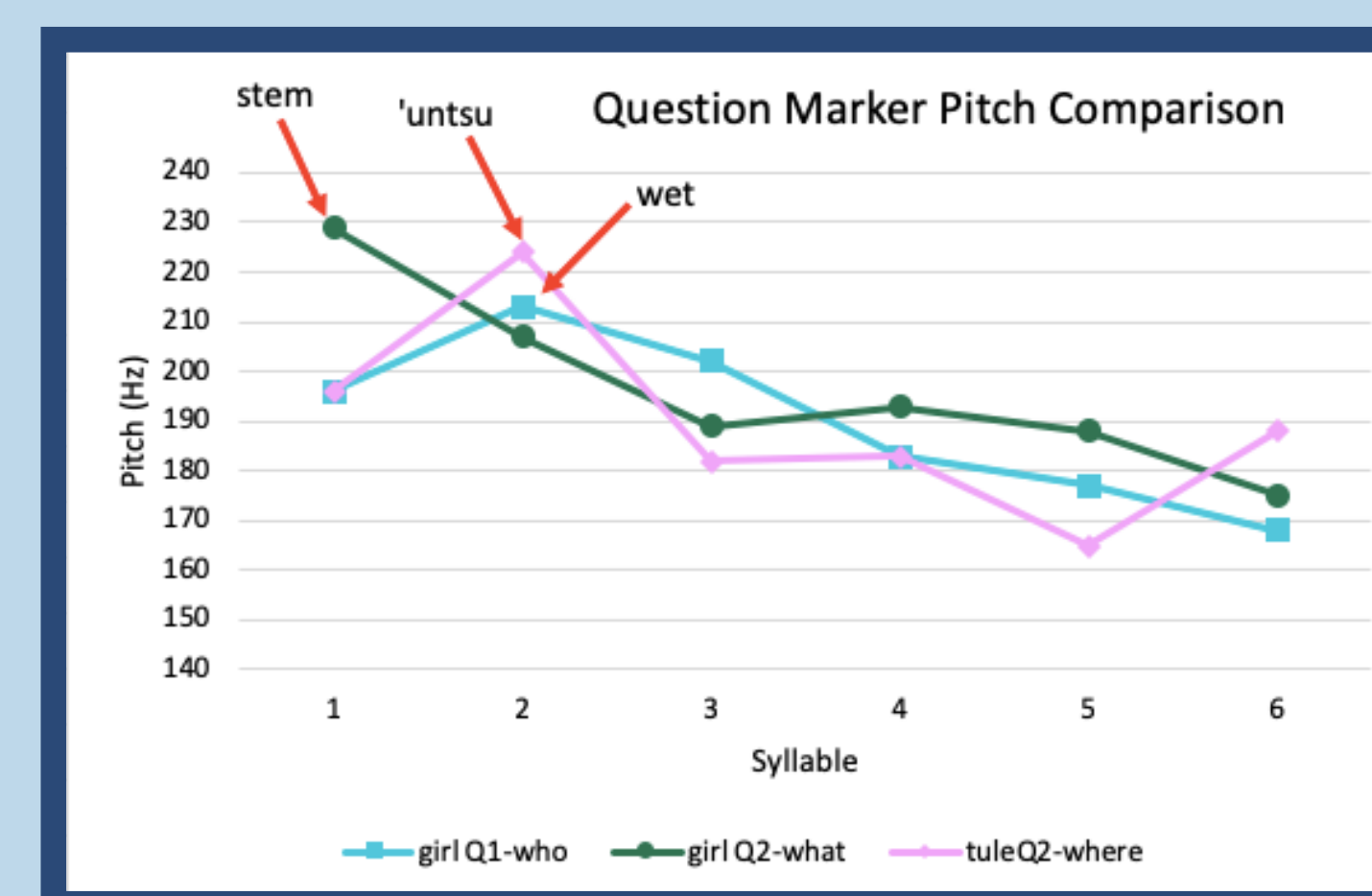


Figure 6. Analysis of Pitch on Question Markers

An analysis of pitch in the *wh*-questions shows that the highest pitch is always realized on the *wh*-question markers (Figure 6)

The syllables before and after the *wh*-question marker are lower in pitch than on the question marker syllable

Where questions contain two syllables. The pitch rises on the first and lowers on the second. It then appears to rise again slightly on the syllable proceeding (Figure 9)

Both *wh*-questions and declarative responses exhibit a declining intonation pattern

The initial section of the *wh*-question appears to be at a higher pitch relative to the declarative responses

The data shows no difference in the final pitch between *wh*-questions and declarative responses

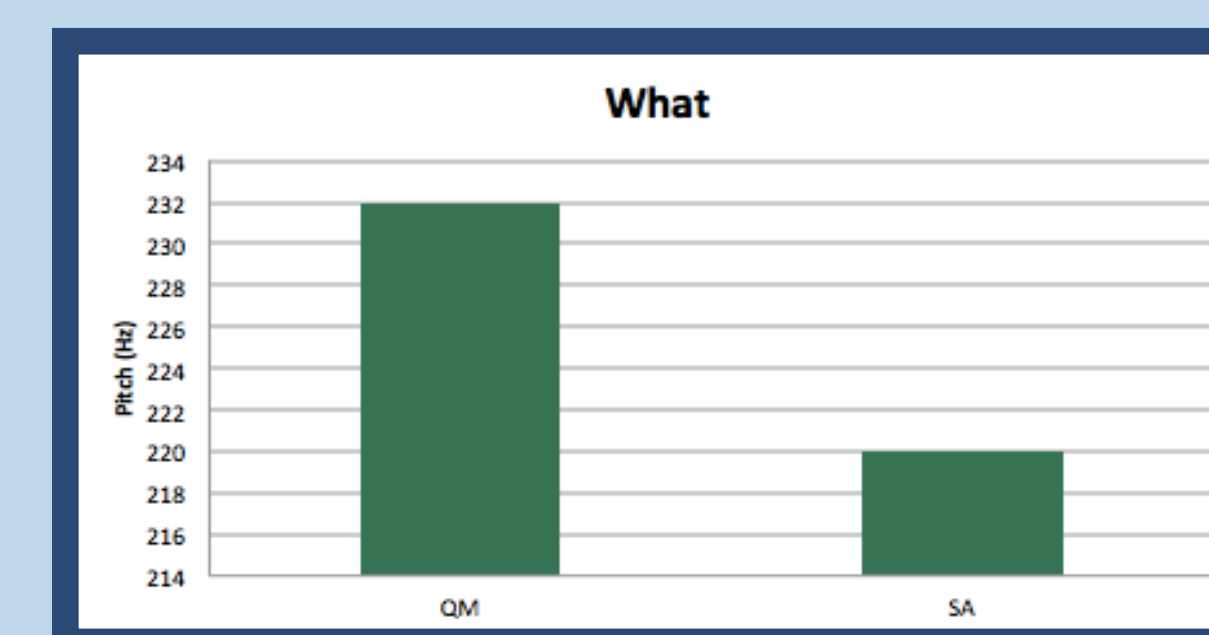


Figure 7. Surrounding Pitch Environment for stem 'what' Question Marker

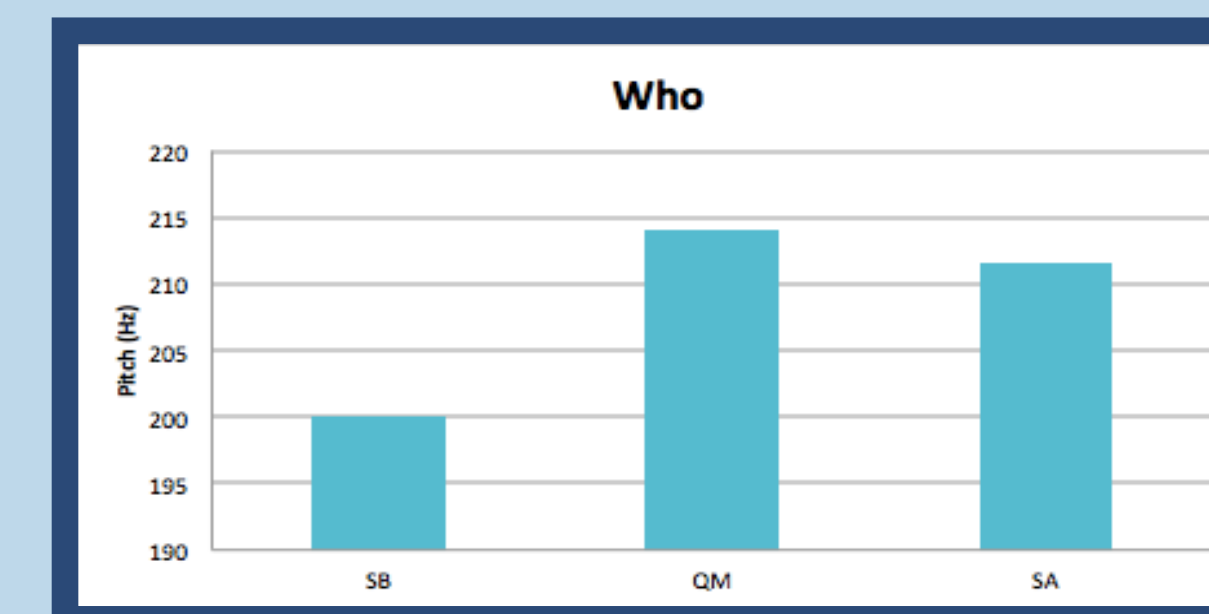


Figure 8. Surrounding Pitch Environment for wet 'who' Question Marker

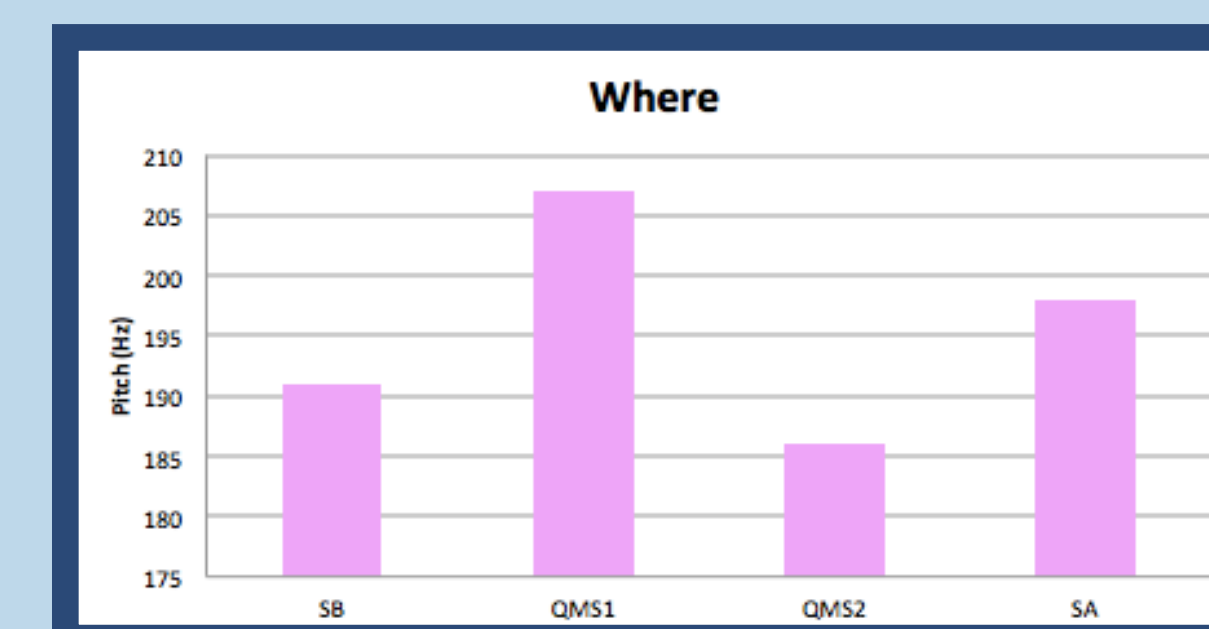


Figure 9. Surrounding Pitch Environment for 'untsu' 'where' Question Marker

Discussion

- Declination pattern in both the *wh*-questions and declarative responses
- Wh*-questions appear to rise in pitch on the syllable of their question marker
- Declarative responses do not exhibit a consistent intonation pattern

- Both *wh*-questions and their declarative response counterparts exhibited an overall decline in pitch from the first syllable to the last
 - This contradicts the Universalist Hypothesis (Ladd 1981; 2008)
 - While they both show a declination pattern, the results are not completely consistent with the findings of previous literature, as there is no significant difference phrase finally between the *wh*-questions and declarative responses
- Wh*-questions appeared to rise in pitch on the syllable that coincided with the question marker
 - This is similar to Oberg's (2007) findings
 - The data showed that the syllable associated with the *wh*-question marker was consistently produced at a higher pitch than any other syllable in the phrase
 - This finding would indicate that there is a specific intonation pattern associated with *wh*-question words, which differs from declarative statements and responses
- The declarative responses do not show a consistent intonation pattern
 - This could be due to:
 - Inter-speaker variation
 - The phonetic environment

Acknowledgements

- Gina Salazar, HLCC Student Collaborator
- Dr. Sonya Bird, UVic Professor of Linguistics
- Dr. Donna Gerdt, SFU Professor of Linguistics
- Tess Nolan, UVic PhD Student
- Hul'q'umi'num' Language Academy
- HLCC

References

- Benner, Allison. 2005. Prosody in Sencoten. unpublished paper for the course Ling 500 at the University of Victoria.
- Caldecott, M. (2016). St'át'imcets intonation contours: A preliminary study. *Canadian Journal of Linguistics*, 61(2), 119.
- Jacobs, P. (2007). Intonation of yes/no questions in Skwxwú7mesh. In 42nd International Conference on Salish and Neighbouring Languages, 236-25
- Ladd, D. R. 1981. Intonational universal. In T. Myers, J. Laver, and J. Anderson (eds.), *The Cognitive Representation of Speech*, 389-397.
- Ladd, D. R. (2008). *Intonational phonology*. Cambridge University Press.
- Oberg, M. (2007). Intonation Contours in St'át'imcets. *University of British Columbia Working Papers in Linguistics: UBCWPL.*, 20, 357.