

LING 830 – August 16

Rhythm and intonation

Interesting tidbit

- Learning pronunciation helps with learning vocabulary!
Johnson et al. (2018)

Project presentations – check in

Preparing for your presentation

1. Listen to the recordings
2. Note down things you notice about the Elders' pronunciation, and in particular how the learners' pronunciation differs from the Elders'
3. Try to “see” the differences using Praat: this means trying to locate
 - a) First the relevant words, and then
 - b) The target sounds themselves.

Giving your presentation

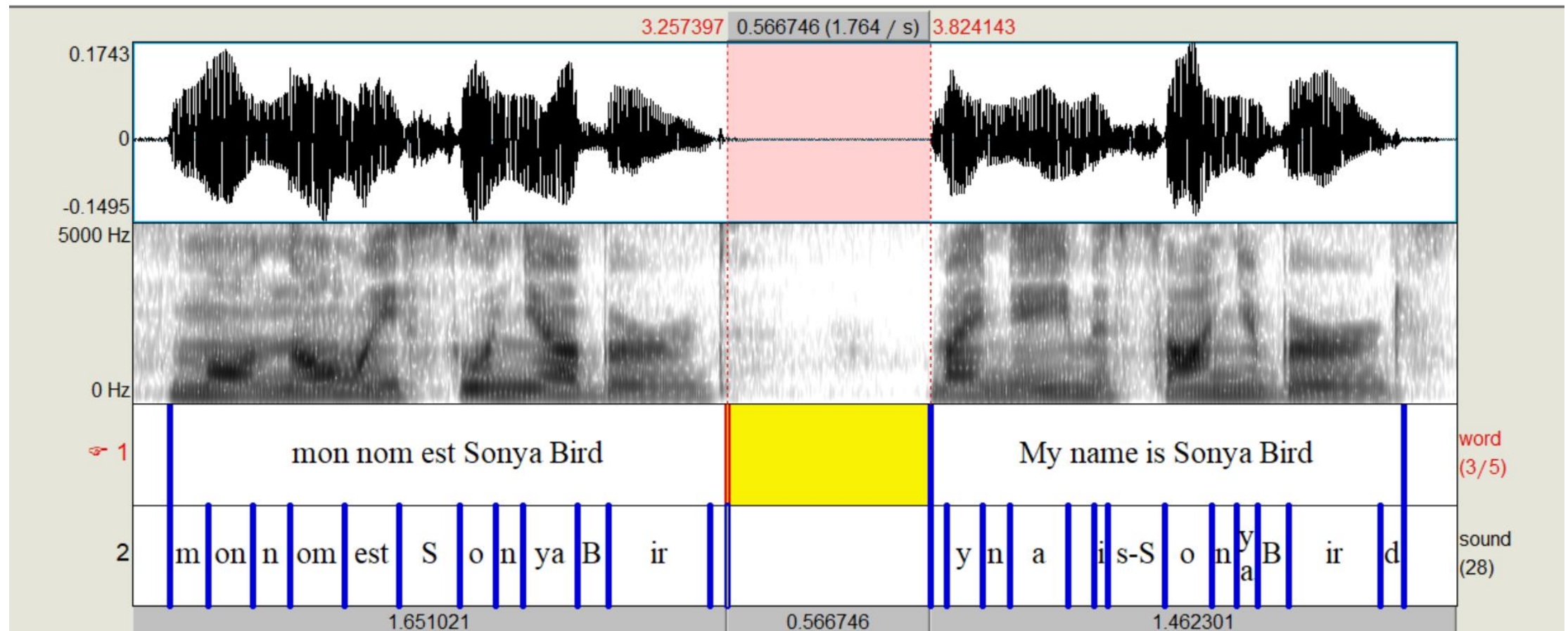
- In presenting to the class, do the kind of thing I've been doing in class:
 - Find some good examples of what you've noticed about Elders' and learners' pronunciation
 - Have the class listen and notice/describe what they're hearing
 - Show them on the spectrogram what they're hearing, to the extent that you can
- Then, include a teaching component: based on what you discovered about L2 vs. L1 pronunciation, how would you teach pronunciation of your target sound? For example, what would you focus on – imitation, or listening? Would you use speech visualization?

Rhythm

- Has to do with alternations between consonants (low sonority) and vowels (high sonority)
- Let's have a listen first...

Linguistic Rhythm

- Rhythmic flow of the language – in some sense related to alternations in sonority
- E.g. French: “machine gun” vs. English: “morse code” (James 1940)



Linguistic rhythm

Cross-linguistic patterns (Ramus et al. 1999)

F. Ramus et al. / Cognition 73 (1999) 265–292

273

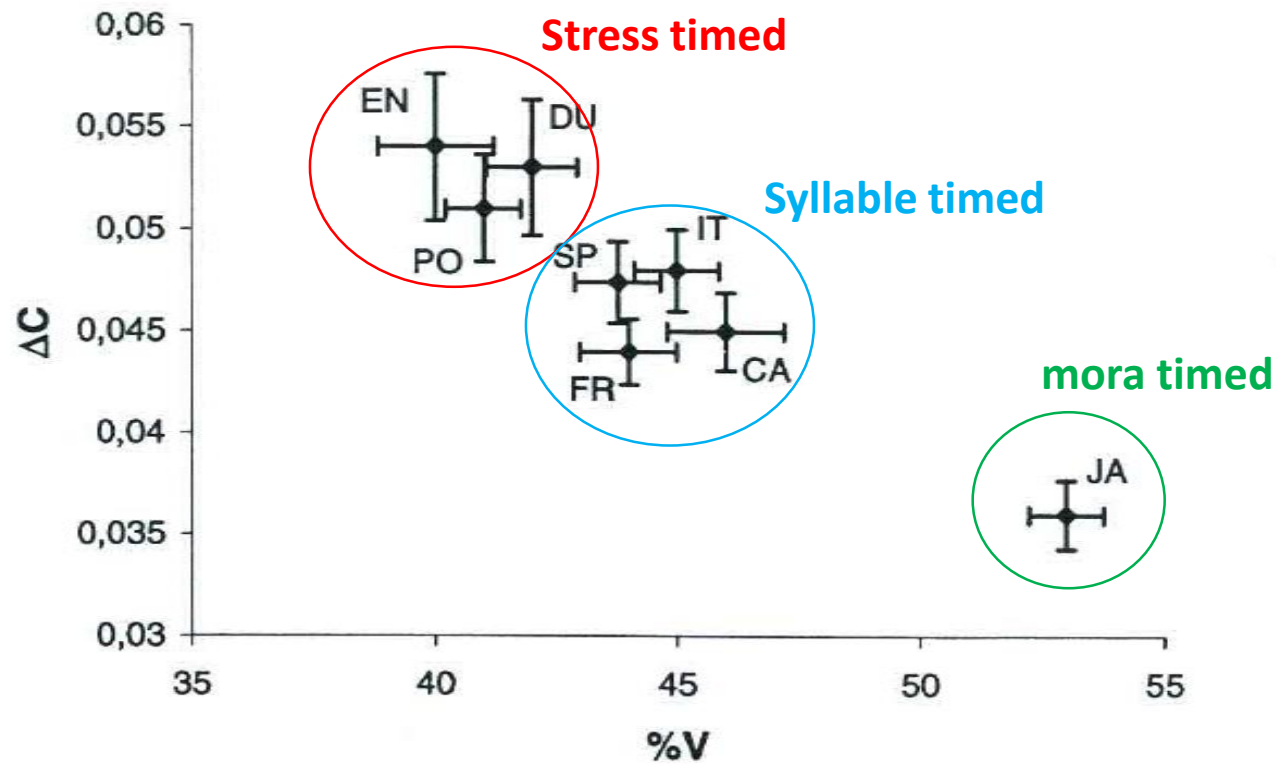


Fig. 1. Distribution of languages over the (%V, ΔC) plane. Error bars represent ± 1 standard error.

- Categories

- English: stress-timed
- French: syllable-timed
- Japanese: mora-timed
- **Salish languages?**

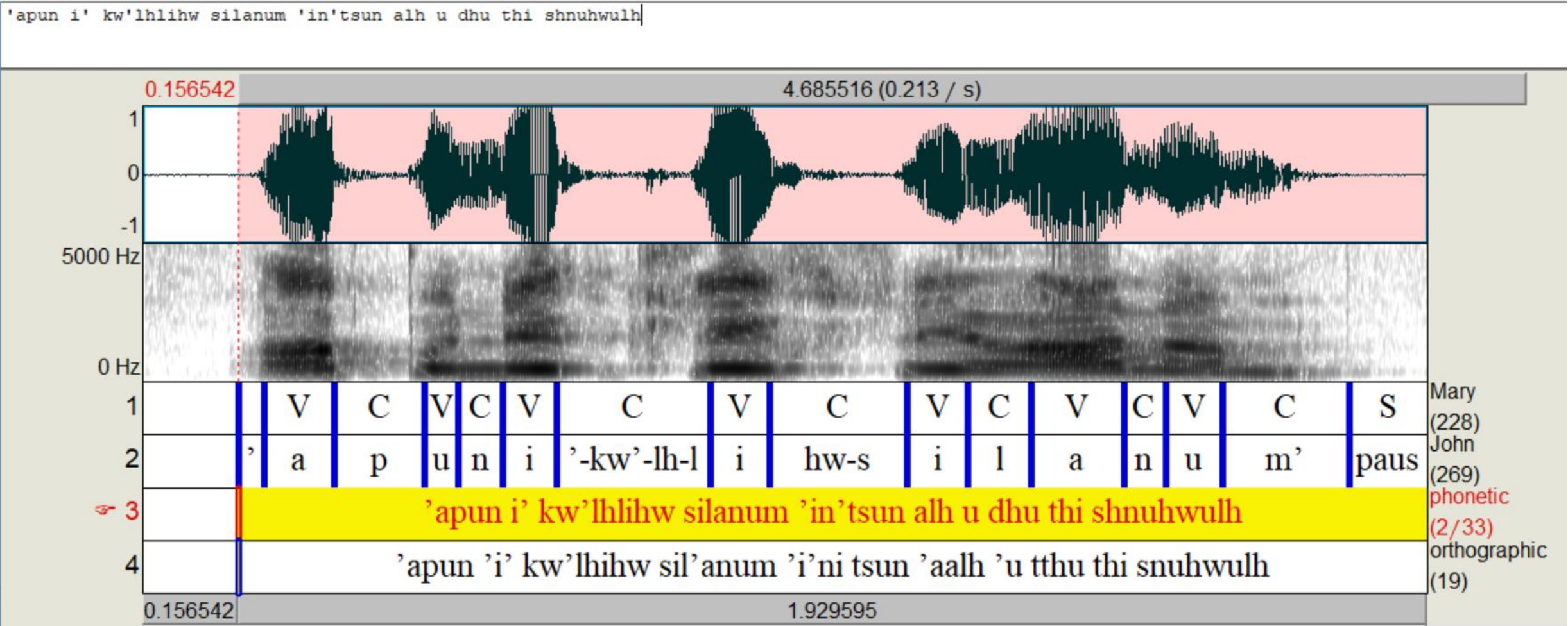
Mackenzie's honours project

Rhythm in Hul'q'umi'num'

Method

- 3.5 minutes of a story told by Bernard David (Tl'isla) from Stz'uminus about his career as a canoe puller, to his granddaughter Margaret Seymour and linguist Donna Gerds, in Duncan BC on November 28, 2017
- Story translated by Delores Louie and Ruby Peter and transcribed phonemically by Ruby Peter and Donna Gerds
- Story transcribed phonetically by Mackenzie Marshall with help from Sonya Bird
 - Praat textgrids used to segment and label consonant and vowel intervals
 - Praat script based on White & Mattys (2007) used to automatically calculate rhythm metrics
- Rhythm metrics considered: %V, ΔV , ΔC , VarcoV, and VarcoC

Method



Results

- Vowel metrics: stress-timed
- Consonant metrics: off the charts

Table 2 Rhythm metrics across languages

Metric	Spanish	French	English	Dutch	Hul'q'umi'num'
%V	48	45	38	41	39
<u>VarcoV</u>	41	50	64	65	53
<u>VarcoC</u>	46	44	47	44	60
ΔV	32	44	49	49	56
ΔC	40	51	59	49	88

Results

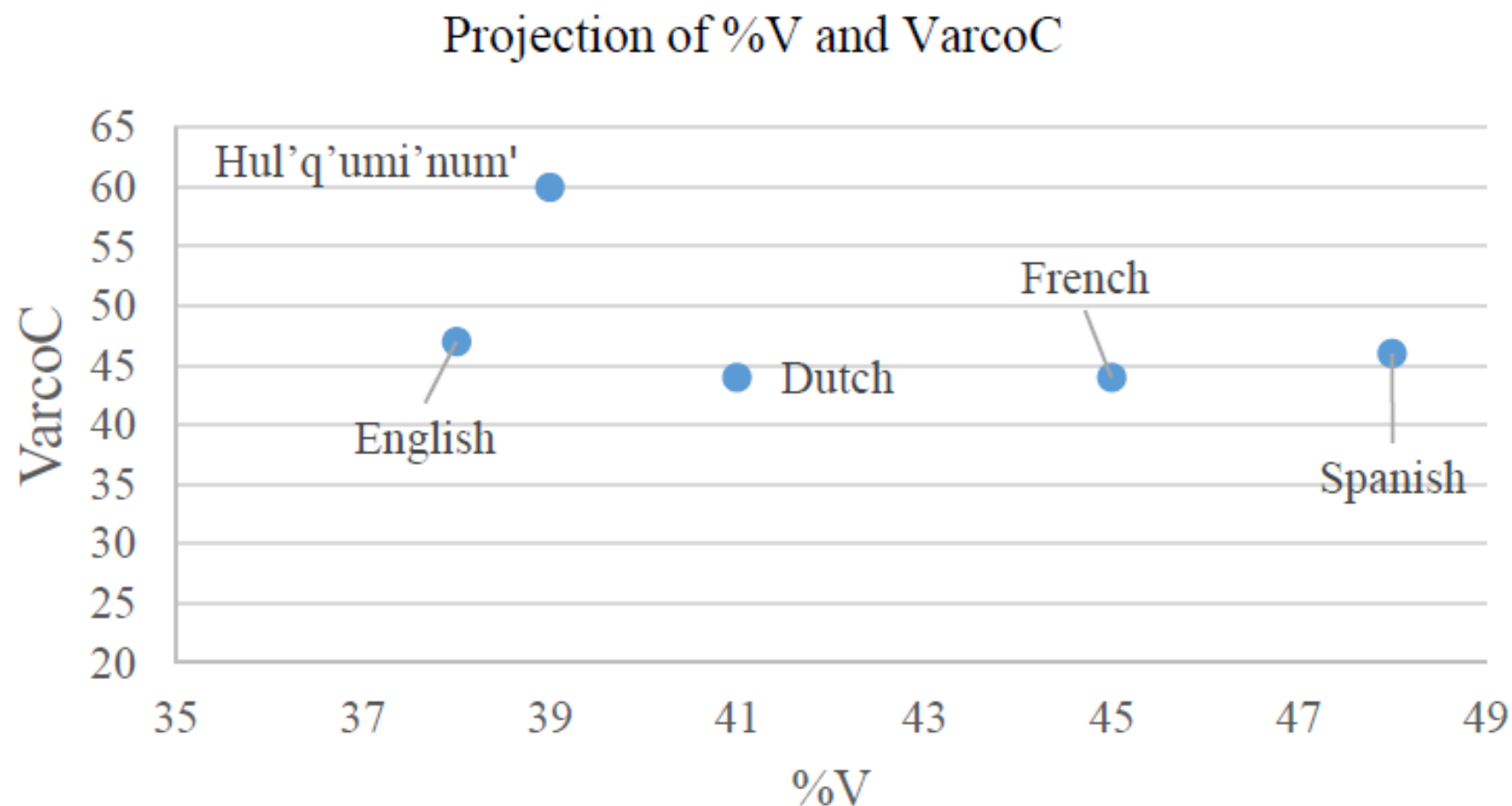


Figure 3: Distribution of languages over the (%V, VarcoC) plane.

So why these results?

Hul'q'umi'num' consonants

- Morphological and phonological complexity
 - Hundreds of frequently occurring clitics (Gerdtz & Werle 2014), some of which consist of consonants and no vowels, e.g. *tst*, a second-position clitic expressing 'we' in (d) below
 - Long strings of consonants make for a unique **rhythmic structure** in Salish languages (cf. Ramus et al. (1999), Ordin & Polyanskaya (2014) on rhythm across the world's languages)

a. x^wθtiwən

'think'

b. tq^wit^θeʔeltsθ

'slice it for me'

c. k^wak^wəx^wəwt^wəlt^sθamš

'knocking on the house for me'

d. θəyt tst tseʔ

'We will fix it.'

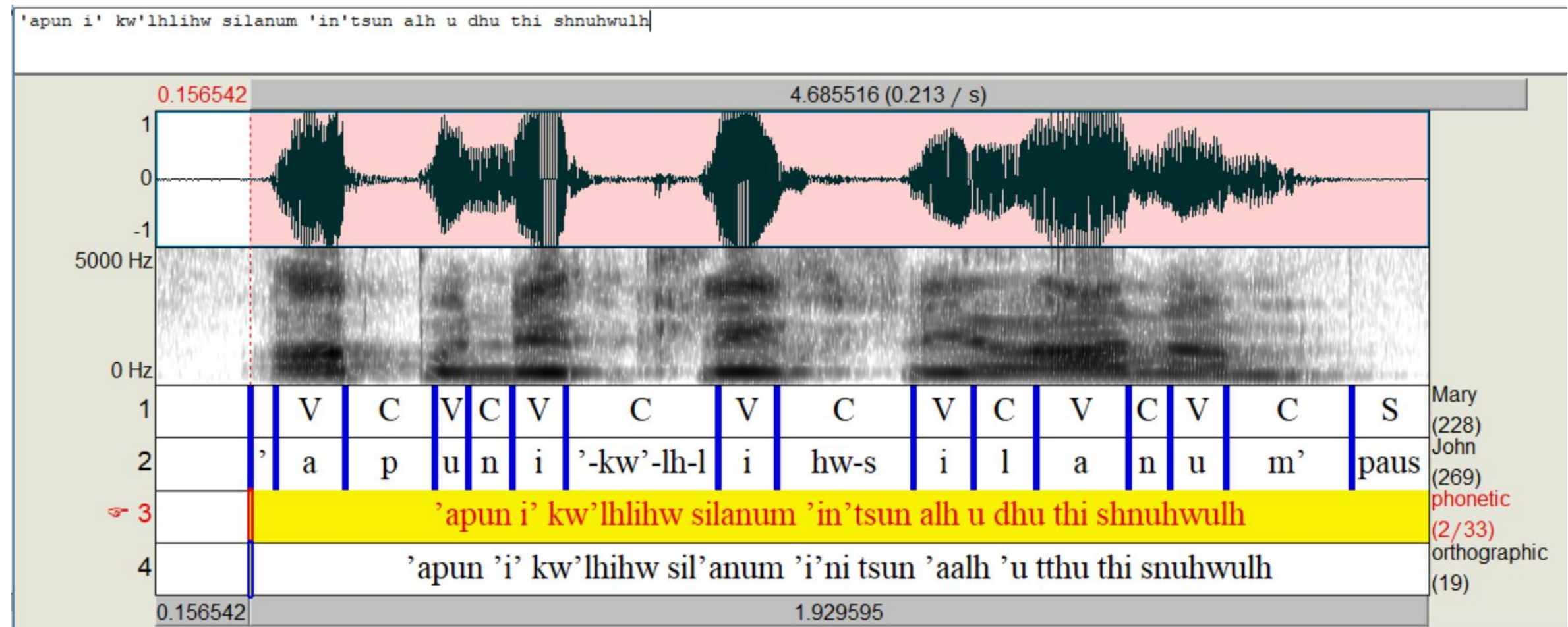
Other interesting discoveries

Phonetic vs. phonological transcription

- Phonemic transcription: done by Hul'q'umi'num' language experts but not phoneticians
- Phonetic transcription: done by phoneticians but not Hul'q'umi'num' language experts
- Interesting mismatches = features of spontaneous speech
 - E.g. glottal stop: often absent phonetically where expected phonologically
 - E.g. <a'u> → [a:] (see similar pattern in neighbouring SENĆOŦEN (Bird, Leonard & Czaykowska-Higgins, 2012))
- Mechanics of spontaneous speech production have been studied in widely spoken languages like English (e.g. Warner & Tucker, 2011) but not in Salish languages, as far as we know

Other interesting discoveries

Phonetic vs. phonological transcription



Take home for teaching and learning Hul'q'umi'num'

- To get rhythm right, learners must be able to master:
 - The morphology (i.e., use all the appropriate morphemes in constructing their sentences)
 - The phonology (i.e., pronounce the consonant clusters within these morphemes, without inserting excrescent vowels)
 - Plus understand the reduction mechanisms that occur naturally in spontaneous speech

Intonation

- Pitch excursions
- Let's have a listen...

Rhythm + intonation

Hul'q'umi'num' speech styles

- Ceremonial speech
- Song
- Story telling
 - Rhetoric lengthening in Elwood Modeste's story

