

# THE REALISATION OF OBSTRUENTS ACROSS SPEAKERS OF HUL'Q'UMI'NUM'

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## 1 Introduction

The language revitalization movement is growing in Canada, with initiatives currently underway in many communities to help language teachers to become fluent and to deliver various kinds of immersion programs: mentor-apprentice teams, language nests, and immersion camps and classes. Although all of these programs emphasize spoken language, virtually no research has been done on pronunciation in the context of language revitalization, e.g. on how pronunciation varies across speakers and on what challenges learners face in becoming proficient speakers. As a step towards filling this gap, this paper provides a preliminary overview of the pronunciation of a particularly complex set of sounds—coronal obstruents—among learners of Hul'q'umi'num', the Island dialect of Halkomelem Salish (ISO 639-3 hur).

### 1.1 Background

Hul'q'umi'num' is spoken by around forty first-language speakers living on southern Vancouver Island and neighboring islands. Although it is considered a highly endangered language because so few first-language speakers remain, the language remains strong due to its use in the ceremonial life of the Hul'q'umi'num' people. Many adults speak Hul'q'umi'num' to some degree and many hundreds understand it. People of all generations have become semi-fluent in Hul'q'umi'num' and help to ensure the survival of the language by teaching it to the younger generation.

Since the intergenerational transmission of the language has been interrupted due to decline in number of first-language speakers, some of the burden of teaching the language has shifted over to post-secondary language programs. The opportunity for this research arose when Gerds helped teach a Simon Fraser University course in Hul'q'umi'num' practical phonetics (four weeks; forty hours total) in July 2016 in Duncan, British Columbia. Various audio and video recordings were made of teachers and students using Hul'q'umi'num' and these materials are being used to help design better teaching materials for learners.

### 1.2 Research questions

The goal of our project is to determine how learners of different fluency levels realize coronal sounds; in particular, do they maintain the contrasts among the stops /t t̥/, the fricatives /θ ɬ s ʃ/, and the affricates /tʰ t̥ʰ ʃ c ç ʃ/?

(Americanist phonetic symbols are used in this paper)? The coronals constitute one-third of the Hul'q'umi'num' consonantal phonemic inventory. Also present in the language are /p p̥ k kʷ q qʷ ɕʷ ʔ xʷ ʃ ʃʷ h m m̥ n n̥ l l̥ y j̥ w w̥/.

## 2 Method

During week one of the four-week practical phonetics course, students were given an assessment test, which was used to pinpoint sounds that were proving problematic for learners. For the assessment test, one of the teachers (a fluent first-language speaker and linguist in her eighties) read a list of 48 words to fifteen second-language speakers and learners, one or two students at a time. The list was designed to test the pronunciation of coronals in various environments. The teacher read the words from a list that she could see but the students could not. She said each word once and then the student attempted to repeat the word. Some of the words were familiar to the students and some were not. We recorded the tests and then analyzed them auditorily (through transcription), as a first pass at determining to what extent the second-language speakers' pronunciations deviated from the first-language speaker's.

## 3 Results

We started from the hypothesis that sounds that are present in the first language of the learners (English) are easier for the Hul'q'umi'num' students to pronounce (Flege, 2003). Indeed, we found that the coronal sounds /t, s, ʃ, ç/ were non-problematic: all students were able to repeat these sounds without errors. For other coronals, at least some of the students made errors in their pronunciation in some words.

Table I. Number and percentage of errors, by target sound.

sound	errors/tokens	%
t	4/180	0.2%
t̥	13/150	8.6%
c	9/75	12%
ç	14/90	15.5%
ɬ	42/210	20%
θ	28/105	26.6%
ʃ	16/75	34.6%
tʰ	47/120	39.1%

Table 1 presents the proportion (errors/total tokens) and percentage of words that contained errors for each target

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sound (total token number = number of the words on the list x fifteen speakers); the targets sounds are presented from those with the least errors to those with the most.

## 4 Discussion

### 4.1 Glottalized sounds

Given the lack of glottalized stops and affricates in English, our hypothesis was that the glottalized coronals would be more difficult to pronounce than their plain corresponding sounds. In the case of alveolar stops /t/ versus /t̚/, this was the case. The only error made with /t/ was its omission in the coda of the first syllable of the word *ci:tməx<sup>w</sup>* ‘great-horned owl’ by four speakers. In contrast, 13 errors were made in words with /t̚/ (9 /t/ substitutions, 2 /t̚<sup>0</sup>/, 1 /ɲ/ and 1 /l/). However, we found that speakers made more errors in pronouncing the plain alveolar affricate /c/ (11 /c̚/ substitutions, 2 /t̚/ and 1 /s̚/) than its glottalized counterpart /c̚/ (5 /c/ substitutions, 1 /t̚/ and 3 /s/). Eight of the fifteen students, all except the ones that were the most fluent, strengthened /c/ to /c̚/ in word initial position in at least one word, and one student of intermediate fluency used this strategy for all /c/s in word-initial position.

The two typologically rare glottalized affricates, the lateral /ɲ/ and the dental /t̚<sup>0</sup>/ also proved challenging for the students. Of the 25 errors in pronouncing /ɲ/, 15 involved deglottalizing and unpacking the affricate to a sequence of /t/ and /l/. (This pronunciation was judged by the native speaker linguist to not be an impediment to understanding, presumably because there is no non-glottalized counterpart to this sound, and sequences of /t/ and /l/ are quite rare.) Other errors were to pronounce it as /t/ (4), /t̚/ (4), /l/ (1), and /t̚<sup>0</sup>/ (1). Twelve of the students made an error in at least one word with /ɲ/, and four of the students made errors in 3 or 4 of the 5 target words.

The glottalized dental affricate /t̚<sup>0</sup>/ was the coronal sound that was most often mispronounced in our study. All the students except the most fluent student in the class made errors with this sound. The dental affricate is quite close in pronunciation to the glottalized alveolar affricate /c̚/: 19 of the 45 errors involved substituting /c̚/. Other errors were substituting a glottalized coronal (/t̚/ (3) and /ɲ/ (3)) or a plain affricate or fricative (/t̚<sup>0</sup>/ (1), /c/ (5), /c̚/ (1), /θ/ (2), /l/ (1)), or a sequence of sounds (/st̚<sup>0</sup>/, /θs/, /st/). Half of the students consistently used one sound when substituting for /t̚<sup>0</sup>/, while others made a variety of errors, and this did not correlate with the degree of fluency of the student.

### 4.2 Fricatives

We were surprised by the degree to which the lateral fricative /l/ than the dental fricative /θ/ were confused, especially given that /θ/ (but not /l/) exists in English: 67% of the errors with /l/ involved substituting /θ/, and conversely 73% of the errors with /θ/ involved substituting /l/. Other miscellaneous substitutions for /l/ were /s/, /l/, /l̥/, /x<sup>w</sup>/, and /x̥<sup>w</sup>/, and for /θ/ the coronals /s/, /t/, /ɲ/, and /c/ were substituted. Other than in one lexical item (*sqəqəwəθ*

‘rabbit’), advanced learners had no difficulty differentiating /l/ and /θ/. Some of the students of intermediate fluency merged the two sounds to /θ/. One intermediate student substituted half of the occurrences of /θ/ with /l/ and half the occurrences of /l/ with /θ/. One lower intermediate student used a variety of substitutions for /l/, but pronounced /θ/ in all examples except one. One beginning student used a variety of substitutions for both /l/ and /θ/.

More research is required on the pronunciation of /θ/ in English vs. Hul’q’umi’num’, by Hul’q’umi’num’ speakers and learners. One possible cause of confusion is that Hul’q’umi’num’ learners are replacing a sound that exists in their first language (/θ/) with one that exists only in their second language (/l/). This type of pattern has been observed anecdotally elsewhere; it seems to be a kind of hypercorrection or overcompensation, which results from a certain degree of insecurity on the part of the speaker about the difference between the two sounds (Eckman et al. 2013) and from a desire to sound pronounce in a distinctively non-English way.

## 5 Conclusion

While preliminary, this study helps delineate areas for further research. Testing perception and production of first and second Hul’q’umi’num’ language speakers may lead to strategies for improving pronunciation of /c/, /t̚<sup>0</sup>/, and /t̚/ for all students and /θ/ versus /l/ for beginning students. In the interim, we shared the assessment test with the students, noting problem areas, and then we designed lectures, pronunciation exercises, and tasks (such as memorizing short poems and practicing tongue twisters) to target the problematic sounds. Some improvement was noted in beginning students, even during the short time frame of the course. This points to the benefit of structuring the practical phonetics course around initial student assessments; contributing factors to improvement may be receiving corrections from teachers, improved reading skills, or simply the opportunity to use the language.

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