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HUL'Q'UMI'NUM' PROSODIC MORPHOLOGY

<u>Goal:</u>   To look at some Hul'q'umi'num' word patterns (**morphology**) and relate them to concepts in phonology, such as stress and syllable structure (**prosody**).

<u>Outline:</u>
Transcribe some Hul'q'umi'num' verb forms, using Praat
Look at acoustic properties of vowels and resonant glottalization
Describe word patterns & relate them to concepts in phonology:
  • stress, syllable structure, sonority, and classes of segments.
Overview of learning & teaching word patterns.

"An explanation is something which satisfies one until one has looked deeper; then one asks for an explanation of the explanation." Hockett (1955, p 4)

A.   Transcription using Praat

(1)   Short vowels

a.   'sing'   _____   'singing'   _____

b.   'look at it'   _____   'looking at it'   _____

Q: Which vowel is stressed in each word?   _____

Q: Which vowels are unstressed in each word?   _____

Q: What differences (acoustic cues) do you notice between schwa and the other vowels?

_____

Q: What is the relationship between stress and what the vowel is?

_____

Q: What changes occur with the consonants in the words in the second column?

_____

Let's draw a representation of the syllables of the words in the second column above, to see how that relates to the patterns of consonant changes. First step is to get a sense of what a syllable is, and the various parts.

Q: How many syllables do each of the words above have?   _____

Languages generally have some common preferences or universal patterns which lead us to identifying different parts of syllable structure. Some of these include:
- syllables should begin with one or more consonant (**onset**)
- languages can restrict what can be at the end of a syllable (**coda**)
- syllables have a peak (**nucleus**)
- languages show preferences for some kinds of consonants in the onset.

Once we look at some more word patterns, we will see some other preferences that emerge in Hul'q'umi'num' progressive verbs.

The symbol for syllables is called a sigma: σ. Segments are grouped into syllables.

σ   σ   σ   σ

Q: What patterns can you find about syllable structure and stress and how glottalized resonants are pronounced in the progressive verbs above?

_____

Let's take a minute to summarize the patterns discovered that are related to stress and syllable structure:

Now let's take a look at a third type of distinction in vowels: long vowels.

(2)	word	meaning	notes on acoustic cues
a.	hee'nut	'sing a lullabye to someone'	_____
b.	haa'nuthut	'singing self to sleep (a baby)'	_____
c.	teem	'call, holler at, phone'	_____
d.	tətaam̓ətəl	'calling each other''	_____

Q: What are the acoustic cues for long vowels? Which is the easiest for learners to perceive?

_____

Q: What patterns have we seen for forming progressive verbs?

_____

The term used to describe variations in the form of a **morpheme** (the expression of a meaning) is **allomorph**. In many cases the variation in form is predictable based on the sounds of the non-progressive verb. The following sections will look at how classes of sounds and can be used to predict the progressive form of verbs. We will summarize by relating these patterns to syllable preferences in Hul'q'umi'num'.

B.   Some patterns of Allomorphy in Hul'q'umi'num'

All examples are from Hukari and Peter (1995), unless otherwise indicated.

(3) luxut   'space it apart'   hul'xut   'spacing it apart'
     muq'ut   'swallow it'   hum'q'ut   'swallowing it'
     luts'ut   'fill it'   hul'ts't   'filling it'

Q: Describe the pattern for expressing progressive words in (3).

_____

Q: Draw the syllable structure of the words below:

        σ   σ   σ   σ

     h u l'   x u t   h u m'   q' u t

Q: What is different about where the first consonant of the root occurs in the progressive?

Q: What is different about these patterns than the ones in (1)? _____

Now let us look at the following word patterns.

(4)
a.   ch'ukwx   'fry'
        ch'ekwx   'frying'

b.   tl'upxt   'scatter it, spread it, broadcast it (e.g., seeds, feathers, sand).'
        tl'epxt   'scattering, spreading, broadcasting it (seeds, feathers, sand)'

c.   lhup'tth't   'slurp it up'
        lhep'tth't   'slurping it up'

d.   c'unum   'tremble'
        c'e'num'   'trembling'

Q: Describe the pattern for expressing progressive forms in (4).

_____

Q: What is similar about the non-progressive forms in (3) & (4)? _____

Q: What is different about these non-progressive forms in (3) & (4)? _____

Let's see what happens when the base begins with a consonant cluster.

(5)
a.	pqwat	break it (substance)	paqwt	breaking it
b.	sq'et	tear/split it	seq't	tearing/splitting it
c.	t'qw'at	break it	t'aqw't	breaking it
d.	hwkw'at	pull it	hwakw't	pulling it

Q: What is the pattern? _____

C. Relating patterns to classes of sounds

It is possible to relate the choice of allomorph to sound patterns (**phonology**). We will look at an example from English and then look at Hul'q'umi'num'. An example of allomorphy that is phonologically predicable is English 'plural', which can be pronounced: [-s, -z, -əz], based on the classes of sounds that precede the 'plural' suffix.

(6) English plural allomorphs
a.	[-s]	tack	tacks	cat	cats	mop	mops		
b.	[-z]	dog	dogs	fad	fads	bin	bins	bee	bees
c.	[-əz]	brush	brushes	switch	switches				

The words that take [-s] end in consonants that do not have vocal fold vibration [voiceless consonants]
The words that have [-z] end in sounds that are called voiced segments.
The words with [-əz] end with hissing [s-type, or sibilant] sounds.

We can group sounds that have a shared articulation/property together and this is called a natural class. In general, the consonant chart is organized according to different classes. Notice that *p, t, k* all occur on the same row (same **manner**) and that *sh* and *ch* are in the same column (same **place**).

Hul'q'umi'num' phonemic alphabet

		Labial	Dental	Alveolar	Palatal	Velar	Labio-velar	Uvular	Labio-uvular	Glottal
Stop	Plain	p		t		k	kw	q	qw	
	Ejective	p'		p'			kw'	q'	qw'	
Affricate	Plain		tth	ts	ch					
	Ejective		tth'	ts'	ch'					
Lateral affricate				tl'						
Fricative	(Plain)		th	s	sh		hw	x	xw	h
Lateral fricative				lh						
Resonant	Plain	m		n	y		w			
	Glottalized	m'		n'	y'		w'			
Lateral resonant	Plain			l						
	Glottalized			l'						

We can also understand that the choice of allomorph in (6) relates to sound preferences. Some sounds occur because they are easier to say than the target plural /-z/.[1]

Q: Let's try to say the plural words in (6) with the target form of the suffix: /-z/.

Changing /-z/ to s in words like (6.a) take less effort to say than keeping it as /-z/. Inserting a schwa makes the sequence of similar sounds like chz in (6.c) easier to say. All of these changes are motivated to make the words easier to pronounce than if they were all said with /-z/.

Hul'q'umi'num' is interesting, because instead of the progressive having a target suffix form like /-z/, the target is based on preferences related to syllable structure and stress.

In order to see what that target is, and how the sound patterns help predict the form of the progressive, the first step is to make a summary chart.

pattern	Conditions that help predict	Example word(s)

As you can see, there is a relationship between stress and vowel quality.
   • When the base has a vowel like *i* or *a* (non-schwa), the pattern involves copying the first consonant and vowel, with stress on the first syllable.
   • When the base has a schwa, there are two different patterns, depending on what the first consonant is.

           • resonant consonants: _____

           • non-resonant (**obstruent**) consonants: _____

   • When the base begins with a cluster, the segments are reversed so that it begins with a syllable that begins with just one consonant.

The patterns that emerge in the progressive form, relate to some preferences for segments and syllable structure and stress.
   -   unstressed vowels reduce to schwa
   -   schwa is shorter and generally lacks a target place of articulation [let's practice saying it]

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[1] Target forms of affixes are often represented in /.../. This is sometimes called the morpheme, or underlying form, because we think that speakers just have just one form in their memories.

- reducing a vowel to schwa when it is unstressed provides a good fit between lack of stress and lack of target
- Conversely,… because schwa doesn't have a target, it is not the best stressed vowel. And all Salish languages avoid stressing schwa if they can!
- if the base vowel is schwa already, then there is a different pattern for resonants vs. non-resonants (**obstruents**).

Q: What pattern of progressives can be related to avoiding a stressed schwa?

_____

In order to understand why there is a difference between resonant consonants and obstruents that precede schwax, it is useful to look at an important concept in syllable structure: **sonority**.

Sonority

Q: What is *sonority?* What do we mean when we say sounds are *sonorous,* etc?

In phonetics, sonority can be defined as the relative *loudness* of a sound. This is an acoustic property, that is represented as being darker on a spectrogram.

There is also an articulatory property associated with sonority: the degree of openness of the vocal tract in pronouncing a sound.

Remember the analogy of water flow and air flow!! –

Q: Which sounds have the most open vocal tract?   _____

Q: Which sounds have the most closed vocal tract?   _____

Much research on sonority has supported the following scale with sounds like the following:

(7)   *a*   *u*   *l*   *m*   *s*   *t*
        most sonorous   least sonorous

In general syllables have a sonority profile or sequencing in which they rise in sonority and then fall at the end. The best kind of syllable has a preferred sonority sequencing:

    It starts off with a low sonority segment in the **onset,**
    Has the highest sonority segment in the **nucleus,**
    Has a sonorous segment in the **coda.**

The progressive forms emerge as a way to improve the sonority (prosodic structure) of some of the words!!

Q: How does changing the vowel in the following words improve the sonority profile?

_____

ch'ukwx   'fry'   ch'ekwx   'frying'
lhup'tth't   'slurp it up'   lhep'tth't   'slurping it up'

Q: How is the sonority profile of the following words improved in the progressive?

luxut	'space it apart'	hul'xut	'spacing it apart'
muq'ut	'swallow it'	hum'q'ut	'swallowing it'

Q: How is syllable structure improved with the following words in the progressive?

pqwat	break it (substance)	paqwt	breaking it
sq'et	tear/split it	seq't	tearing/splitting it

Q: How can syllable structure be used to describe the following progressive forms?

t'ilum	'sing'	t'it'ulum'	'singing'
lemut	'look at'	le'lum'ut	'looking at'

Summary:

Hul'q'umi'num' uses prosodic structure to express meaning, in ways that show universal preferences related to syllable structure, stress, and sonority.

If time:

Some other word-formation processes that avoid stressing schwa include 'diminutive' and 'plural'. Let's make a list of some words that show this pattern.

Learning word patterns (Nation, 2012):

Q: What are some ideas for how to teach/learn the progressive word patterns?

References

Hockett, C. (1955). *A manual of phonology.* Part 1, Memoir 11: International Journal of American Linguistics. Chicago, IL: University of Chicago Press.

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Nation, I. S. P. (2012). *Learning vocabulary in another language.* 2nd edition. Cambridge, UK: Cambridge University Press.