

**24.900: Introduction to Linguistics**  
**Problem set #2**

Due **TUESDAY**, March 2

**Part 1: Greenlandic Eskimo Vowels**

Examine the distribution of the vowels [i, e, u, o, a] in the data below. Your task is to analyze the data below, and determine what the underlying vowels are, and how many of them there are. It's possible that there are fewer than five underlying vowels, and that some of these surface vowels are really allophones of a single underlying vowel phoneme. Or maybe not. You decide.

[ʀ] is a uvular trill, [q] a voiceless uvular stop.

ivnaq	'bluff'	iperaq	'harpoon strap'
imaq	'sea'	tuluvaq	'raven'
itumaq	'palm of hand'	nanoq	'bear'
iseraq	'ankle'	sermeq	'glacier'
qasaloq	'bark'	ikusik	'elbow'
qilaluvaq	'white whale'	qatigak	'back'
sakiak	'rib'	ugsik	'cow'
orpik	'tree'	nerdloq	'goose'
marraaq	'clay'		

Once you have determined what the underlying vowels are, formulate a rule (if your analysis requires one) that accounts for all of the data above. Motivate your rule in a few clear and precise paragraphs, making sure to state the relevant generalizations (e.g., the sound classes involved, the environment where the sound changes, if any, occur, etc.), but state the rule using features. Your analysis should include a lexicon (with each of the words in their underlying form), in addition to a few sample derivations.

## Part 2. Friulian

Consider the following data from the Friulian dialect of Italian. The words in column 2 involve various suffixes attached to the words in column 1--you don't need to worry about the different suffixes (for the purposes of this problem, they all behave the same way)

### Question 1:

In column 3, write the underlying forms for the root morphemes in the two columns. State the phonological rule that accounts for the form of the final consonants in the first two columns.

<u>column 1</u>		<u>column 2</u>		<u>column 3</u>
warp	'blind'	warb-it	'sty'	
kwarp	'body'	kwarp-ut	'little body'	
piert	'he loses'	piert-i	'to lose'	
dint	'tooth'	dint-isin	'little tooth'	
sek	'dry (masc.)'	sek-e	'dry (fem.)'	
fi:k	'fig'	fig-on	'big fig'	

### Question 2:

Now we will look at vowel length in Friulian (indicated with the colon symbol, ":") Consider the following data:

<u>column 1</u>		<u>column 2</u>		<u>column 3</u>
la:t	'went (masc.)'	lad-e	'went (fem.)'	
brut	'ugly (masc.)'	brut-e	'ugly (fem.)'	
nervo:s	'nervous (masc.)'	nervoz-e	'nervous (fem.)'	
ros	'red (masc.)'	ros-e	'red (fem.)'	
trop	'flock'	trop-ut	'little flock'	
lo:f	'wolf'	lov-ut	'little wolf'	
vjo:t	'he sees'	vjod-i	'to see'	

Vowel length, at least in these examples, is predictable in Friulian. Write the underlying forms in column 3 again, and state the rule. Make sure your rule accounts for all the Friulian data given (including the data in Question 1). Since this rule has to do with vowel length, something we haven't learned how to talk about in features, you don't need to state it in features; you can just write it in prose.

### Question 3:

Must the two rules you have proposed be applied in a particular order? If so, state the order and show how the wrong order gives the wrong result, using one word (your choice) from the above sets of data. If the ordering is not crucial, show this with an example in which both rules apply. (**Hint:** if you find yourself stating rules that make reference to the operations of other rules--e.g., rules that say "this rule applies to forms to which the other rule has applied", or "this rule applies as though this other rule had not applied", you're on the wrong track. Try to state your rules so that they apply as mechanically as possible to the input they're given, without "thinking" about what other rules might have done)

### Part 3. More transcription

Rewrite these sentences in standard English spelling (putting in whatever punctuation seems appropriate). The transcription corresponds (roughly) to the pronunciation of Norvin Richards, and of course your accent may be different! If you do notice difference, feel free to write us a note about them.

1. ðij ʌðər deɪ ə ɡət ɔwt ə k<sup>h</sup>æn ɔwpənər ænd wəz ɔwpənɪŋ ə k<sup>h</sup>æn əv wɜrmz wɛn ə ʒɔt wʌt æm ə duwɪŋ
2. ə ɪ hæv nʌθɪŋ t<sup>h</sup>u w ɔfər bʌt blʌd t<sup>h</sup>ɔjl t<sup>h</sup>ɪrz ænd swet
3. juw seɪ t<sup>h</sup>əmerow ænd ə seɪ t<sup>h</sup>əmarow
4. feɪn ɪz speld ɛs eɪtʃ eɪ ɛn ɪj
5. ə læŋgwədʒ ɪz ə dʌjələkt wɪθ ən ɑrmɪj ænd ə neɪvɪj
6. ə ɪ hæv ə driɪm ðæt wʌn deɪ ðɪs neɪʃən wɪl rʌɪz ʌp ænd lɪv ɔwt ðə t<sup>h</sup>ruw mɪjɪŋ əv ɪts k<sup>h</sup>rɪɪd
7. læst ɪjvɪŋ wɪ wɛnt dænsɪŋ ænd ə brɔwk jər leɪg
8. nɔwbədi nɔwz wʌt weɪts əhed bɪjənd ðɪj ərθ ænd skaj
9. ðə wɜrld wɪl lɪrəl nɔwt nɔwr lɔŋ rəmembər wʌt wɪ seɪ hɪr bʌt ɪt k<sup>h</sup>æn nevər fərget wʌt ðeɪ dɪd hɪr
10. ðæt ɪz ðə p<sup>h</sup>leɪs juw sed wɪd mɪt ə rowt ɪt ɪnsajd məɪ lɪrəl blæŋk bʊk

### Part 4. Transcription failures

Below are some badly transcribed English words. Correct the transcriptions.

1. jʌstɪs
2. anthɛm
3. banana
4. p<sup>h</sup>ɑrsɪŋg
5. ʌndərdet<sup>h</sup>ərmiɪnd

## Part 5. Fieldwork

Make as complete a list as you can of the vowels of your language. You might start by asking for a short word--perhaps a monosyllabic word, if your language has monosyllables. Next try varying the vowel(s) in the word, trying out some of the other vowels you've heard about in class (there's also a relevant link on the "links" page of the class website, under "some vowels to listen to"), and ask if the new words you're making are words. If they aren't (and they often won't be), you could try asking if there are other words that 'sound like' or 'rhyme with' the words you're trying out. You can also try directly asking what the vowels are, but you shouldn't count too much on getting an accurate answer to this (what kind of answer would you typically get if you asked an English speaker this question?).

Once you think you have all the vowels, you could also try just asking your friend to talk briefly in their language, and record their speech (you should warn them in advance that you're planning to do this, so that they can think of something to say). Listen to the recording, and see if you hear any vowels you've missed.

In your answer to this part, list the vowels you've collected, along with words that contain them. As much as possible, use minimal pairs to illustrate the vowels (so, for example, if you somehow managed to be working on English, you could give the words *beet*, *boot*, *bait*, and *bat* as illustrations of the vowels [ij], [uj], [ej], and [æ])