

Problems for Presentations
Introduction to Phonology
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Wiltshire Fall 2008

For Class Friday 11/7: choose the two problems you would most like to present; you will present only one, but not everyone can get their top choice.

Give me a list, ranked 1-2 of your top choices, on 11/7 and I will let you know the schedule on Monday, 11/10. Each presentation will involve 3 students working together.

Dates	Problem	Topic	Presenters
12/1	Scottish English	Rules, Phonemics	
12/1	Arabic Sun/Moon	Rules, CV tier	
12/1	Tangale	Rules, Ordering	
12/3	Akan	Rules, Autosegmental	
12/3	Lebanese	Syllables, Sonority	
12/3	Bakwiri	Tones/Tiers	
12/5	English L2	Syllables & OT	
12/5	Sanskrit and Pali	Syllables & OT	
12/5	Spanish	Syllables & OT	
12/8	Child's Language	OT	

Guidelines for presentations:

There are two goals for these exercises: one goal is to ensure that we do more problems in class; the second is for me to get a sense of how well you're understanding the material by testing your ability to explain it. As an added bonus, you get to talk more in class, learn from each other, and get a break from me lecturing!

To make this succeed:

1. Every student should do every problem. Presenters should feel free to assume that everyone in class has read, thought about, and worked on the problem before class.
2. You will be working in small groups. Presenters are responsible for meeting before their presentation date to work out an answer and decide who will present what; everyone in the group should contribute. You may consult with me before presenting your solution, to see if you are on the right track.
3. Each problem includes a number of questions to be discussed, but you do not have to answer them in order or divide up the presentation into one question per person.
4. I expect each presentation to take 10-15 minutes, and it counts for 8% of your grade. You will get a good grade for a presentation that is well prepared; you do not have to be absolutely correct, but you do have to be prepared to talk through a solution, recreating it on the board or on an overhead and explaining as you go. Feel free to create some visual aids to help explain your answer.
5. You should also be prepared to be challenged or corrected if necessary during the presentation, by the professor or by other students. Again, the grade is based on your preparation, so such challenges do not mean a bad grade.

As you are working with difficult material, I do not expect perfect answers every time. In fact, some of the problems I am assigning cause disagreement among phonologists. So be ready for questions, and interpret them as signs of interest rather than conflict.

Wednesday, Dec. 1st**Scottish English****Rules/Phonemics**

Consider the distribution of long vs. short vowels in the data in A below. What factors determine vowel length? The distribution is predictable; write a rule to account for it.

A.	a.	[bi:ɹ]	'beer'	[bin]	'bean'	[fiː]	'feel'
	b.	[bik]	'beak'	[bi:vɹ]	'beaver'	[i:z]	'ease'
	c.	[rʌm]	'room'	[mʌ:v]	'move'	[brʌ:ɹ]	'brew'
	d.	[sʌ:ð]	'soothe'	[sʌp]	'soup'	[mʌ:ɹ]	'moor'
	e.	[meɪ]	'whale'	[we:ɹ]	'weigh'	[sket]	'skate'
	f.	[wef]	'waif'	[be:ð]	'bathe'	[des]	'dace'
	g.	[ləd]	'load'	[no:z]	'nose'	[rɒb]	'robe'
	h.	[po:ɹ]	'pore'	[blo:ɹ]	'blow'	[gɒst]	'ghost'

Now consider the pairs below.

B.	i.	[nid]	'need'	[ni:d]	'kneed'
	j.	[brʌd]	'brood'	[brʌ:d]	'brewed'
	k.	[wed]	'wade'	[we:d]	'weighed'
	l.	[ɒd]	'ode'	[o:d]	'owed'

How do these affect your analysis? Can you still use a rule to account for the data in B as well as A? Is the distinction between long and short vowels phonemic in Scottish English?

Monday, Dec. 1st**Levantine Arabic****Rules, CV Tier**

Traditionally, Arab grammarians divide the consonants of Arabic into two groups: the 'sun' and the 'moon' letters, based on their effect on the definite prefix // 'the'. Coronal consonants cause total assimilation of the prefix:

Moon:Noun	Definite		Sun: Noun	Definite	
[walad]	[lwalad]	'the boy'	[sana]	[ssana]	'year'
[mooz]	[lmooz]	'banana'	[nuur]	[nnuur]	'light'
[kuusa]	[lkuusa]	'squash'			
[hawa]	[lhawa]	'air'			

Levantine Arabic has another rule that interacts with this assimilation: (I am using ˤ to indicate a pharyngealized C)

Noun	Definite		Noun	Definite	
[blaad]	[liblaad]	'country'	[zbuun]	[zzbuun]	'customer'
[ktaab]	[liktaab]	'book'	[druus]	[ddruus]	'lessons'
[ħṣaan]	[liħṣaan]	'horse'	[treen]	[ttreen]	'train'
			[lħaaf]	[llħaaf]	'blanket'

Write two rules to account for the above data. How does using a CV tier help explain the relationship between the two rules? Do you need more structure than the Rolodex Autosegmental model?

Monday, Dec. 1st

Tangale

Rules, Ordering

a. Consider the nominal paradigm from the Chadic language Tangale:

Noun	Definite	Possessive 1sg.	Poss.2sg.	Poss. 3sg.f	gloss
loo	loo-i	loo-no	loo-go	loo-do	'meat'
bugat	bugat-i	bugad-no	bugat-ko	bugat-to	'window'
tugat	tugad-i	tugad-no	tugad-go	tugad-do	'berry'
aduk	aduk-i	adug-no	aduk-ko	aduk-to	'load'
kuluk	kulug-i	kulug-no	kulug-go	kulug-do	'harp'

- i. What are the underlying forms of the nouns listed?
- ii. Write rules to account for the stem-final voicing alternations.
- iii. Write a rule to account for the alternation in the 2sg. and 3sg.f. possessive suffixes.

b. Now consider the following:

Noun	Definite	Possessive 1sg.	Poss.2sg.	Poss. 3sg.f	gloss
wudo	wud-i	wud-no	wud-go	wud-do	'tooth'
lutu	lut-i	lut-no	lut-ko	lut-to	'bag'
taga	tag-i	tag-no	tag-go	tag-do	'shoe'
duka	duk-i	duk-no	duk-ko	duk-to	'salt'
ɲuli	ɲul-i	ɲul-no	ɲul-go	ɲul-do	'truth'

- iv. What are the underlying forms of the nouns listed in b.?
- v. What further rule operates on the noun paradigm shown in b.?
- vi. How does this rule interact with those you proposed for a.? Name the interactions (bleeding, feeding, etc.) and illustrate with examples.
- vii. How does Tangale support the idea of using distinctive features instead of indivisible segments? Provide (at least) two arguments, and explain.

Wednesday, Dec 3rd

Akan

Rules, Autosegmental

The nine vowel system of Akan is usually represented as two subgroups:

[+ATR]		[-ATR]	
i	u	ɪ	ʊ
e	o	ɛ	ɔ
			ɑ

- A. Using the features [high, low, back, round, ATR], draw up a feature matrix which distinguishes all nine vowels
- B. In the root morphemes of Akan, the vowels must be all [+ATR] or all [-ATR]. For example, /fiti/, /fite/, /fito/ and /fitu/ are all possible roots, but */fitɪ/, */fitɛ/, */fitɔ/ and */fitʊ/ are not. Now, look at the following data:

1.	[o-fiti-i]	'he pierced it'	2.	[ɔ-tʃɪɪɛ-ɪ]	'he showed it'
3.	[e-bu-o]	'nest'	4.	[ɛ-bʊ-ɔ]	'stone'

Each form consists of a prefix, a root, and a suffix; list the allomorphs for each prefix and suffix.

- C. Devise an underspecified phonological representation for the prefix used in 1. and 2, and another representation for the prefix used in 3. and 4. Provide URs for 'pierce' and 'show' as well. Can/should these be underspecified?
- D. Write a vowel harmony rule which will yield all of the prefixal alternations, using autosegmental phonology. How would the rule differ to cover the suffixal alternations?
- E. how is the use of autosegmental representation an improvement over the use of linear, SPE style, rules in this case? does the use of autosegmental representation increase the abstractness of your analysis? explain, and evaluate whether that is a positive or a negative.

Wednesday, Dec 3rd

Lebanese

Syllables, Sonority

All of the following Lebanese words have the shape CVCC underlying.

a.	[hawl]	'around'	j.	[lawm]	'blame'
b.	[ɣayr]	'other than'	k.	[ħilm]	'dream'
c.	[xawf]	'fear'	l.	[ħarf]	'letter'
d.	[bayt]	'home'	m.	[ʕirs]	'wedding'
e.	[kizb]	'lying'	n.	[wizk]	'win'
f.	[maʔd]	'glory'	o.	[ʕabd]	'slave'
g.	[nafs]	'self'	p.	[sakt]	'silence'
h.	[nimr]	'tiger'	q.	[nakz]	'poking'
i.	[ʔisʔ]	'fee'	r.	[rakd]	'running'

1. Which forms seem to violate the sonority sequencing principle? What property unites all these forms?
2. Propose a solution for the behavior of these forms. Give the syllable structure for one of them.

a.	/ħiml/	[ħimil]	'load'	h.	/ʔifl/	[ʔifil]	'lock'
b.	/nasl/	[nasil]	'progeny'	i.	/ʔakl/	[ʔakil]	'food'
c.	/nisr/	[nisir]	'eagle'	j.	/farm/	[farim]	'chopping'
d.	/ʕatm/	[ʕatim]	'darkness'	k.	/ħikm/	[ħikim]	'ruling'
e.	/firn/	[firin]	'oven'	l.	/ʔamn/	[ʔamin]	'peace'
f.	/ħabk/	[ħabik]	'weaving'	m.	/fatk/	[fatik]	'eradicating'
g.	/nadb/	[nadib]	'wailing'	n.	/rikb/	[rikib]	'riding'

3. Explain why these forms have epenthesis, whereas the forms in A do not. If you have to revise your answer to 3, do so now (this doesn't mean you will have to, but make sure whatever you propose for 3 and 4 work for both sets of data).
4. Which of the forms in B is unusual, i.e. has epenthesis where you don't expect it?
5. Suggest a revised sonority scale which will account for Lebanese as opposed to English.
6. Would you predict epenthesis for the following forms? Explain why.

/talr/ /zirl/ /dufb/ /ʕagt/

Wednesday, Dec. 3rd

Bakwiri

CV/Timing Tier

- A. Speakers of Bakwiri play a linguistic game to disguise their speech (like English speakers do with 'pig-latin'). Determine the rule for playing the game; can you explain the rule using the timing tier? (note: long vowels are transcribed as doubled. Treat the tones as features on their own tier: ` = low tone, ´ = high tone.)
- B. Show how your analysis works for two examples.
- C. Discuss which aspects of autosegmental phonology are useful to your analysis.

Normal	Disguised	
mòkò	kòmò	'plantain'
lówá	wáló	'excrement'
kwéí	líkwé	'death'
kóndì	ndíkò	'rice'
lijé	jèlí	'stone'
mòkó	kòmó	'one person'
kómbà	mbákò	'take care of'
zánḡò	ḡgózà	'father'
lùḡḡá	ḡḡààlú	'stomach'
zééjá	jáázé	'burn'

Friday, Dec. 5th

English L2

Syllables & OT

A native speaker of a Tibeto-Burman language called Angami was recorded producing the following when speaking English as a second language:

Bob	[bɔp]	had	[hət]	project	[pɔdʒɛk]
please	[plis]	badge	[bæɪf]	important	[ɪmpɔtənt]
frog	[fɔk]	stamp	[stæmp]	film	[fɪm]
stopped	[stɔp]	ask	[æɪs]	wise	[wɔɪs]
asks	[æks]	slabs	[slæps]	bags	[bæks]
texts	[tɛks]	lifts	[lɪfs]	held	[hɛl]

The language Angami allows only simple CV syllables; no clusters are allowed in the onset, and no consonants at all appear in the coda of any syllables. Using OT and syllable-related constraints, can you explain the consonants in his L2 English – why do they differ from L1 English? Consider the grammar of where the speaker starts (his Angami grammar), the grammar of the target English, and general constraints or markedness tendencies related to syllable structure.

(Note: Indian English and British English both tend to not pronounce “r”s in the coda, so you do not need to explain the absence of coda r in the speech above)

Friday, Dec. 5th

Sansrit & Pali

Syllables, OT

Sanskrit is the ancestor language of Pali (that is, over time, Sanskrit changed into Pali).

Below are examples of Pali words and the earlier Sanskrit forms of those same words. You should pay attention to the consonant clusters and ignore changes in the vowels.

	Sanskrit	Pali	meaning
a.	tatas	tato	'therefore'
	punar	puna	'again'
	pra:patat	papata	'hurled down'
b.	danta	danta	'tamed'
	sambudd ^h a	sambudd ^h a	'enlightened'
	sakt ^h i	satt ^h i	'thigh'
	mudga	mugga	'bean'
	sabda	sadda	'words'
	b ^h akta	b ^h atta	'rice'
	sapta	satta	'seven'
	karka	kakka	'a precious stone'
	sarpa	sappa	'snake'
	valka	vakka	'the bark of a tree'
	d ^h arma	d ^h amma	'righteousness'
	karṇa	kaṇṇa	'ear'
	kalmaṣa	kammaṣa	'spotted'
	karsaka	kassaka	'farmer'
c.	traana	taana	'protection'
	kramati	kamati	'walks'
	prati	pati	'against'
	svasru	sassu	'mother-in-law'

Assume that the two languages have the same underlying forms. Determine the constraints and constraint rankings that will account for each language individually (that is, the constraint set should be the same, but the rankings will be different). Give examples to illustrate your reasoning about the rankings in each language. Again, do not worry about changes in the vowels. (Hint: You will need to invent a constraint called CODACONDITION; give me a clear definition.) Discuss whether the OT approach provides any advantage or disadvantage over a rule system approach for this data.

Friday, Dec. 5th

Spanish

Syllables & OT

The following provides some examples of syllabification in Spanish (I'm using the period . to indicate the beginning and ends of syllables, and # to indicate word boundaries. There is a rule relating voiced stops and fricatives; you do not need to discuss that).

1. What principle(s) does Spanish syllabification obey? Does syllabification follow the same principle(s) in the same way within phrases as within words? Explain.

Words alone:

a. /asules/	[.a.su.les.]	'blue'	b. /komida/	[.ko.mi.ða.]	'food'
c. /sopla/	[.so.plo.]	'breath'	d. /ablar/	[.a.βlar.]	'talk'
e. /peregrino/	[.pe.re.ɣri.no.]	'pilgrim'			

Words in Phrases: (the interesting part is underlined in the phonetic representation)

a. /oxos#asules/	[.o.xo. <u>sa</u> .su.les.]	'blue eyes'
b. /tʃef#loko/	[.tʃef. <u>lo</u> .ko.]	'crazy chef'
c. /un#elefante/	[.u. <u>ne</u> .le.fan.te.]	'an elephant'
d. /klub#lindo/	[.klu <u>β</u> .lin.do.]	'beautiful club'
e. /asul#oscuro/	[.a.su. <u>los</u> .ku.ro.]	'dark blue'
f. /benid#rapido/	[.be.ni <u>ð</u> .ra.pi.ðo]	'come (pl. imper) quickly'
g. /klub#elegante/	[.klu. <u>βe</u> .le.ɣan.te.]	'elegant club'

2. Analyze the syllabification of Spanish using OT. You will need to invent a constraint or two to explain what happens when phrases are syllabified.

Monday, Dec 8th

English L1

Syllables & OT

The examples below are the pronunciations of a 2-year-old child acquiring language in a monolingual American English-speaking household:

[kin]	'clean'	[dɔ]	'draw'	[piz]	'please'	[fɛn]	'friend'
[gəj]	'sky'	[bɪw]	'spill'	[dɔ]	'straw'	[gɪn]	'skin'
[bun]	'spoon'	[dɑ:]	'star'	[so]	'snow'	[sɪp]	'slip'

1. Assume that the child's input forms are the adult pronunciation of these words. Rank the constraints MAX-IO, DEP-IO, NOCODA, ONSET and *COMPLEX, to get as close as possible to the output forms.
2. Illustrate using 'friend' and 'spoon'; you will have (at least) two forms tied as optimal outputs. (Note: you do not need to explain what happens with the vowel qualities or the use of voiced stops for voiceless ones).
3. What kind of constraint would you need to explain which consonant from onset clusters survives in the output? Discuss the constraint(s) and ranking.