

Name: _____

Problem set 5: 24.900
Due Monday, 10/15/01

Part 1: Russian [Repeated from last week.] Consider some pairs of forms from Russian. Call the forms in the left column "zero-ending forms" and the forms in the left column "-a forms", though the meaning and use of the two forms actually varies widely among the examples.

	<u>zero-ending form</u>	<u>-a form</u>		<u>root as listed in lexicon</u>
1.	grɔp	grɔba	'coffin'	_____
2.	lip	lipa	'linden tree'	_____
3.	ʃɔpət	ʃɔpəta	'whisper'	_____
4.	gɔrət	gɔrəda	'city'	_____
5.	ruk	ruka	'hand'	_____
6.	rɔk	rɔga	'horn'	_____
7.	rɔk	rɔka	'fate'	_____
8.	kərɔndaʃ	kərɔndaʃa	'pencil'	_____
9.	ekipaʃ	ekipaʃa	'crew'	_____
10.	ras	rasa	'race'	_____
11.	ras	raza	'time'	_____
12.	dɔm	dɔma	'house'	_____
13.	plan	plana	'plan'	_____
14.	skɔzal	skɔzala	'said'	_____
15.	vɔr	vɔra	'thief'	_____

- State the phonological rule affecting consonants that is illustrated by these forms. Make sure your statement of the rule covers all the data.
- What language examined in class also has this rule? How do we know that English lacks this rule?
- List the minimal pairs found in the Russian examples above. What does the existence of these minimal pairs teach us about the phonemic inventory of Russian?
- Assuming that phonologically predictable aspects of pronunciation do not form part of the lexical entries of morphemes, what are the forms listed in the lexicon for the root morpheme of the words in the first 6 rows above? Use the space provided above.

Part 2: Ewe Consider the following forms from Ewe and answer the questions below. Note: [kp] and [gb] are labiovelar stops, that is, sounds articulated with simultaneous closure at the lips and velum.

[problem adapted from Morris Halle and G.N. Clements, *Problem Book in Phonology*, MIT Press 1983]

1.	zrõ	'to be smooth'	14.	dru	'to be bent'
2.	lõ	'to love'	15.	fle	'to pluck'
3.	kpla	'to intertwine'	16.	glamaa	'uneven'
4.	mلاغoo	'thick'	17.	litsa	'chameleon'
5.	gblaa	'wide'	18.	dzre	'to quarrel'
6.	lolo	'to be large'	19.	yla	'to hide'
7.	wlu	'to dig'	20.	xloloo	'rough'
8.	βla	'suddenly'	21.	tsro	'bark (of tree)'
9.	srõ	'wife'	22.	ϕle	'to buy'
10.	lãkle	'leopard'	23.	blema	'formerly'
11.	hle	'to spread out'	24.	dõlele	'illness'
12.	vlõ	'to go far way'	25.	ŋlõ	'to write'
13.	atra	'mangrove'	26.	adoglo	'lizard'

a. In Ewe, [l] and [r] are in complementary distribution, and thus can be derived by rule from a single phoneme. Assume the phoneme is [l]. What rule predicts the allophone [r]? State your rule in terms of *classes* of phonemes, using the terminology we learned when studying phonetics (e.g. *velar*, *fricative*, *voiced*, etc.).

b. In words borrowed from other languages (called *loanwords*), Ewe sometimes has [l] where the original language has [r]. For example:

German *Krug* becomes Ewe [kplu] 'jug'
 French *Paris* [pari:] becomes Ewe [kpali] 'Paris'
 Portuguese *claro* becomes Ewe [klalo] 'finished'
 Danish *trappe* becomes Ewe [atrakpoe] 'steps'

It is obviously not the case that Ewe speakers "cannot pronounce the sound r". How does the rule you stated in question a explain the Ewe pronunciation of these borrowed words?