

Homework 3: Phonology

LING 5001 Introduction to Linguistics

Due by beginning of class, December 14th, 2016

1 IPA

A. (10 pts). Provide the orthographic representation of the following phonetic transcriptions:

1. [k^hɛmikəl]
2. [t^hændʒə.iɪn]
3. [bajɹɪkəl]
4. [st.ɪŋ]
5. [bejð]
6. [ji.ɪli]
7. [bɪznəs]
8. [hɪkəp]
9. [θiə.rɪ]
10. [ʃiθ]

B. (10 pts). Provide the IPA symbol that meet the following descriptions:

1. voiceless alveolar stop
2. unrounded high front tense vowel
3. aspirated voiceless bilabial stop
4. labial glide
5. voiced palatal affricate
6. rounded mid back tense vowel
7. unrounded high front lax vowel
8. alveolar flap
9. glottal stop
10. velar nasal stop

2 Phonological Rules

C. (15 pts) Examine the following data from Canadian French, spoken in Canada. [t^s] is a voiceless alveolar affricate, and [y] is a rounded high front vowel, and [ʀ] is a uvular trill. In this language, are [t] and [t^s] different phonemes (i.e., are they contrastive)? If so, provide evidence. If they are not contrastive, then choose an underlying form and write a rule which produces the observed distribution of the allophones.

[tu]	‘all’	[telegʀam]	‘telegram’
[abut ^s i]	‘ended’	[trɛ]	‘very’
[tɛl]	‘such’	[kylt ^s yʀ]	‘culture’
[tab]	‘stamp’	[minyt]	‘minute’
[t ^s imid]	‘timid’	[t ^s y]	‘you’
[t ^s it]	‘title’	[t ^s yʀ]	‘tube’

D. (15 pts) Examine the following data from Bangla, spoken in Bangladesh, India, and in major communities in the UK and USA. Vowels with tildes over them (i.e., [ã]) represent nasalized versions of a vowel, and [t] and [d] represented retroflex t and d. Determine whether [s] and [ʃ] are different phonemes. If they are different phonemes, provide evidence. If they are not allophones of the same phoneme, then choose an underlying form and write a rule which produces the observed distribution of the allophones.

[stri]	‘wife’	[baʃ]	‘enough’
[ʃãp]	‘snake’	[b ^h aʃa]	‘language’
[srest ^h o]	‘best’	[ʃitkal]	‘winter’
[ʃilpi]	‘artist’	[snaŋ]	‘shower’
[kɔsto]	‘effort’		

E. (10 pts) The following words have been borrowed from English into Bangla. Describe whether this is surprising given your solution above, and whether you might need to revise your solution to account for these data. What conclusions you might draw about Bangla phonology on the basis of these phenomena.

[bakso]	‘box’
[bas]	‘bus’
[spæniʃ]	‘Spanish’
[glaʃ]	‘glass’
[stɛsɔŋ] or [stɛʃɔŋ]	‘station’

3 Rule Ordering

Examine the following data from Karok, an indigenous language spoken in California. The symbol : indicates that a vowel is lengthened, and [x] is a voiceless velar fricative.

[pasip]	‘shoot’	[nipasip]	‘I shoot’	[ʔupasip]	‘he/she shoots’
[kifnuk]	‘stoop’	[nikifnuk]	‘I stoop’	[ʔukifnuk]	‘he/she stoops’
[sirtva]	‘steal’	[niʃirtva]	‘I steal’	[ʔusirtva]	‘he/she steals’
[skak]	‘jump’	[niʃkak]	‘I jump’	[ʔuskak]	‘he/she jumps’
[axyar]	‘fill’	[nixyar]	‘I fill’	[ʔuxyar]	‘he/she fills’
[uksup]	‘point’	[nikʃup]	‘I point’	[ʔuksup]	‘he/she points’
[ikʃah]	‘laugh’	[nikʃah]	‘I laugh’	[ʔuksah]	‘he/she laughs’

One relevant rule is the following, which says that the phoneme /s/ becomes [ʃ] either after the phoneme /i/, or after the phoneme /i/ and a consonant:

/s/ → ʃ / i (C) --

F. (15 points) First, there is a rule that turns the phoneme /s/ into [ʃ] immediately after the phoneme /i/, or after the phoneme /i/ and one consonant. Write a rule for this, using (C) to represent the optional consonant.

G. (10 points) There’s another rule in this language which deletes vowels in certain contexts. State the rule explicitly. We can represent deletion by saying that the phoneme turns into \emptyset .

H. (15 points) Which order do these two apply in? Justify your answer by showing a derivation of a case where your chosen order produces the desired result, but the reverse order would not. By *derivation*, I mean apply the first rule to some phonological form, and provide the resulting output. Afterwards, apply the second rule to the output of the first rule. One order will correctly capture the data for Karok, but another order will not.