Homework 2: Phonology

Introduction to Linguistics

Due: April 27, 2020, 11.59pm on Canvas

1 English and Peninsular Spanish

Consider the following data from English and Spanish and answer the questions that follow. [6 points]

NB: Though not all variations of English or Spanish may have these alternations, please base your answer on the data given.

English:

[dɛn]	den	[ðɛn]	then
[doʊz]	doze	[ðoʊz]	those
[dɛɹ]	dare	[ðɛɹ]	there

Spanish:

[dɑɾ]	'to give'	[nɑðɑ]	'nothing'
[deβeɾ]	'to have to'	[boðeɣa]	'wine cellar'
[diɑs]	'days'	[ablɑðo]	'spoken'
[bandɑ]	'ribbon'	[pɾaðo]	'meadow'
[andɑɾ]	'to go'	[poðeɾ]	'to be able'

[β] is a voiced bilabial fricative. [ɣ] is a voiced velar fricative.

a) We saw in the IPA that /d/ and /ð/ are different phonemes in English. Use the data above to justify this conclusion. 1. The words in each row are minimal pairs. Switching between [d] and [ð] triggers a meaning shift in all cases, showing that [d] and [ð] represent different phonemes.

b) Is the distinction between [ð] and [d] in Spanish phonemic or allophonic? Use the data above to explain. 2. The sounds are in complementary distribution in Spanish. The most parsimonious generalization is that [ð] appears between two vowels and [d] appears elsewhere, but it's a valid *description* to say that [d] appears after a word onset or after [n], where [ð] is never found. The fact that the sounds are in complementary distribution suggests that they are allophones of the same phoneme.

2 Features

Name a single feature that distinguishes the following pairs of sounds (i.e., name a property that makes these sounds different): [6 points]

a) [z] : [d] [cont]   c) [k] : [g]   [voice]   e) [i] : [e]   [high]

b) [u] : [i] [back]   d) [m] : [ŋ] [PLACE] f) [b] : [m] [nasal]

3 Rule notation

Change the following statements into rule notation. You are only expected to use features and notation given in lecture. [9 points]

Bonus: Give each process a name. [.5 (extra) points each]

NB: Examples of some acceptable formats for phonological processes are given below. No need to go into full features, just make sure your notation is distinctive enough to select the correct affected or resulting sound or class of sounds:

A voiceless stop aspirates syllable-initially. [aspiration]

C[+stop, -voi, -spr glot] → [+spr glot] / $_

[+cons, -son, +cont, -voi, -spr glot] → [+spr glot] / $_

C[voicesless stop] → [+spr glot] / $_

/l/ devoices when following a syllable-initial voiceless stop. [(l)-devoicing]

[+lat, +voi] → [-voi] / $[+stop, -voi] _

[l] → [-voi] / $[voiceless stop] _

A vowel becomes nasal when preceding a nasal consonant. [nasalization]

V → [+nas] / _ C[+nas]

Some helpful symbols to know: $_ means syllable-initial and _$ syllable-final; #_ means word-initial and _# word-final.

a) Voiceless stops become corresponding fricatives between vowels.

[voiceless stop] ⟶ [fricative] / V ___ V .... etc.

b) A schwa is inserted between a voiced stop and a word-final voiced fricative.

∅ ⟶ [ə] / [voiced stop] ___ [voiced fricative] #

c) Low unrounded vowels become rounded before m.

[low unrounded V] ⟶ [rounded] / ___ [m]

4   Ebira

Examine the sounds [e] and [a] in the following data from Ebira, a Niger-Congo language of the Nupoid family, spoken in Nigeria. [8 points]

[mezi]	'I expect'	[mazɪ]	'I am in pain'
[meze]	'I am well'	[mazɛ]	'I agree'
[meto]	'I arrange'	[matɔ]	'I pick'
[metu]	'I beat'	[matʊ]	'I send'

Do they appear to be allophones of separate phonemes or allophones of the same phoneme? If the two sounds are in complementary distribution, state in prose the conditioning environments for the allophones. Relate these environments back to distinctive features.

The sounds [e] and [a] are allophones of the same phoneme. They are in complementary distribution: [e] appears when the vowel in the following syllable is tense, whereas [a] appears when the vowel in the following syllable is lax

5   Luganda

Luganda is a Bantu language spoken primarily in Uganda. Consider the distribution of [r] and [l] in the Luganda data below. [12 points]

[olubiri]	'place enclosure'	[akalulu]	'vote'	[liɲɲa]	'climb'
[eŋgiri]	'warthog'	[ssaffali]	'safari'	[eŋkula]	'rhinoceros'
[eraŋg]	'dye'	[akasaale]	'arrow'	[kampala]	'Kampala'
[liiri]	'silk'	[omulere]	'flute'	[akabonero]	'sign'
[luma]	'hurt'	[lje]	'my'		

a) Decide if [r] and [l] are phonemes or allophones of the same phonemes. If you they are allophones of the same phoneme, determine which is the underlying phoneme and which is the derived surface variants. State the distribution of the allophone in terms of natural classes.

b) Write a rule that derives the allophone from the phoneme.

/l/ $\longrightarrow$ [r] / ___ [front V]

6 Tagalog

Consider the following data from Tagalog. [9 points]

NB: We have not gone over rule ordering in class. Take what you know to see if you can figure it out. This problem will be graded for completion only.

	form 1	form 2	form 3	gloss
1.	[bukas]	[buksin]	[buksan]	'open'
2.	[kapit]	[kaptin]	[kaptan]	'embrace'
3.	[damit]	[damtin]	[damtan]	'clothe'
4.	[laman]	[lamnin]	[lamnan]	'fill'
5.	[putol]	[putlin]	[putlan]	'cut'
6.	[tobos]	[tubsin]	[tubsan]	'redeem'
7.	[opos]	[upsin]	[upsan]	'stop'
8.	[posod]	[pusdin]	[pusdan]	'tuft'

Two phonological rules are active in the alternations between forms:

1. *Syncope*
   V → ∅ / VC ____ CV

2. *o-raising*
   [o] → [u] / ____ CC

a) Complete the derivation below. What are the correct underlying representations for [tubsin] and [posod]? What is the derivation of /tamanan/?

UR	/#tobosin#/	/#tamanan#/	/#posod#/
Syncope	tobsin	tamnan	–
o-raising	tubsin	–	–
SR	[tubsin]	[tamnan]	[posod]

b) Do the rules need to be applied in a particular order? State your reasons.

Yes: if the rules applied in the opposite order, the environment for o-raising would never be met in some forms; so we would predict e.g. surface *[tobsin].