Your Name:_____

LIGN101 Homework 2 - Will Styler, Winter 2020

Be sure to include your name at the top of the homework sheet. Homeworks may be typed (many PDF reader applications can type on top of documents) or handwritten legibly, ***in the space given****. Please do your best to make your answers concise, you are graded on quality, not quantity. For typing IPA, you can add an IPA keyboard layout to your computer, use the symbol picker, or use an online keyboard like i2speak.com.* ***You will need to scan your homework to submit it! Please leave adequate time!***

1. Answer the following. Each question has only one correct answer. (2 points each)

   (a) A rule which turns a bilabial nasal /m/ into an alveolar nasal [n] before an alveolar stop /t/ is an example of...

   ◯ Epenthesis ◯ Deletion √ **Assimilation** ◯ Dissimilation

   (b) A rule which inserts an intervening [t] whenever two vowels are next to each other is an example of...

   √ **Epenthesis** ◯ Deletion ◯ Assimilation ◯ Dissimilation

   (c) The [t] insertion rule above corresponds to which of the below rules, written in phonological rule notation:

   ◯ ø → [t] / VV_ √ **ø → [t] / V_V** ◯ [t] → ø / V_V ◯ [t] → ø / VV_

   (d) True or false: If you find a minimal pair while examining the distributions of two sounds, this means the sounds are in a *complimentary* distribution and thus, are allophones of the same phoneme.
   ◯ True √ **False**

   (e) True or false: Phonotactic constraints dictate what sounds and sound combinations are acceptable in a language. √ **True** ◯ False

2. For each group of sounds below, say what natural class describes it. Be sure your description includes all the sounds you're trying to classify. (3 points per grouping)

   (Hint, you may want to look at IPA charts, the slides, and your readings for some terminology. If you can't come up with a specific term to describe the natural class, describe exactly what phonetic properties the sounds in it share.)

   (a) /p b f m/

Solution: Sounds involving the lips, labial sounds, it's all good.

   (b) /p t k/

Solution: Voiceless stops, 1 point for 'stops'

   (c) /t d s n/

Solution: Alveolar sounds. Obstruents too, but that's not on the menu.

(d) /θ s x/

Solution: Fricatives

(e) /n l ɹ/

Solution: Alveolar sonorants (or just sonorants)

(f) /l ɹ j/

Solution: Approximants (do not accept "approximates")

(g) /k g x ŋ/

Solution: Velar sounds

3. Translate the following (mostly made-up) phonological rules into English descriptions. Remember that "#" means a word boundary, uppercase "C" means "any consonant" and uppercase "V" means "any vowel". (2 points each)

   Example: /V/ → [V:] / ___#

   Vowels become lengthened at the end of a word

   (a) /p/ → [b] / #___

   Solution: P becomes b at the start of words

   (b) /[Voiceless stops]/ → [+voice] /___[C+voice]

   Solution: Voiceless stops get voiced before voiced consonants

   (c) /[voiceless stops]/ → ø / VC___#

   Solution: Voiceless stops disappear between a VC and the end of a word. Or word final cluster simplification, or however they want to do it.

   (d) ø → [ʔ] / V___V

   Solution: Glottal stops are epenthesized or added between vowels

(e) /b/ → [m] / #___V

Solution: b goes to m at the start of the word before a vowel. If they generalize (stops go nasal), knock off a single point.

4. Write out, in phonological rule form, the following phonological rules. Remember that "#" means a word boundary, uppercase "C" means "any consonant" and uppercase "V" means "any vowel", and you can use general terms in brackets like [voiced stops], [labial sounds], [stressed vowel], or [dentals] to fill in the blanks in your ability to write formal phonological rules. (2 points per rule)

   Example: Voiceless stops are voiced when word initial.

   /voiceless stops/→[+voice] / #___

Solution: Be merciful in this section, and as long as it makes some sense, give half credit. Allow [Aspirated stops] or [Voiced stops and affricates] →... Don't worry about [] vs // when describing natural classes.

(a) Alveolar nasals become velar nasals before velar consonants

Solution: Accept [Alv C] → [Velar] / ___[Velars] or the equivalent with IPA

(b) /b/ disappears before another consonant.

Solution: /b/ → ø / ___C

(c) Vowels before voiced consonants are longer than before voiceless ones. You can use "V:" to represent a long vowel.

Solution: V → V: / ___[voiced C]

(d) A /t/ is inserted between two directly adjacent vowels.

Solution: ø → [t] / V___V

5. You happen across a dataset collected by the Great Explorer Emilio Madeupdata, listing words containing [s] and [z] in the Fikshiona language.

Fikshiona	**English**	**Fikshiona**	**English**
pasa	'hedgehog'	pesi	'sun'
tadsam	'chapstick'	galzam	'tree'
pezi	'stone'	salza	'sauce'
ʃenza	'pencil'	ʃeŋsa	'fabricated dataset'
sata	'hard drive'	zate	'tweezers'

(a) Looking at Emilio's data, are [s] and [z] in complementary distribution, or contrastive distribution? (5 points)

Solution: Contrastive

(b) Explain your reasoning, making reference to the word or words which give it away? (5 points)

Solution: Contrastive. Minimal pair of /pezi/ and /pesi/, stone and sun. Sata and zate too, but if they miss the slam dunk minimal pair, they've got problems.

6. Ganda (or Luganda) is a Bantu language spoken by around 3 million people living mainly in the Buganda region of Uganda. In Ganda, **[r] and [l] are in complementary distribution**. All Ganda words below are in the IPA, consonants and vowels followed by : are double-length (geminate).

Ganda	**English**	**Ganda**	**English**
kola	'do'	wulira	'hear'
lwana	'fight'	be:ra	'help'
bu:lira	'tell'	dʒ:ukira	'remember'
lja	'eat'	erjato	'canoe'
lu:la	'sit'	omuliro	'fire'
omugole	'bride'	ef:irimbi	'whistle'
lumonde	'sweet potato'	em:e:ri	'ship'
ed:waliro	'hospital'	erad:u	'lightning'
oluganda	'Ganda Language'	wawa:bira	'accuse'
olulimi	'tongue'	lagira	'command'

(a) Describe the distribution of each allophone. (You're not required to list out the environment in which each sound occurs, but you may want to, to best see the patterns.) Make your descriptions as simple and as general as possible, referring to natural classes where you can. *Hint: pay attention to natural classes of vowels.* (5 points)

Solution: /r/ follows front vowels (or mid and high front) /l/ elsewhere (or other detail)

(b) Choose an underlying phoneme (the sound from which the other form is derived in your analysis, or the 'elsewhere' allophone), and explain why you chose the one you did.(5 points)

Solution: /l/. It's more generally used, and it's the "elsewhere allophone". But accept compelling arguments, if needed.

(c) Write a rule that accounts for the distribution of [l] and [r] in Ganda. Make the rule as general as possible, referring to natural classes where appropriate. (5 points)

Solution: /l/ -> /r/ / [front vowel]___ That's all that's required. Accept 'High front' or 'High and Mid Front'

(d) The below forms are all loanwords into Ganda from English.

Ganda	**English**	**Ganda**	**English**
ebendera	'flag/banner'	lu:la	'ruler'
le:rwe	'railway'	s:af:a:li	'safari'

Explain why English /l/ and /r/ are not always borrowed as [l] and [r], respectively. Is the choice of the Ganda speakers random? Or can it be predicted? (5 points)

Solution: They should mention that it follows the rule they just created in c. If they say Random, it's wrong-dom.