20200622
ALL EXAMS (with notes)

START OF EXAM
Student ID: empty
2:00 - 2:20 PM

START OF EXAM
Student ID: 4066
2:20 - 2:40 PM

Question 1

Source: Day 9 Handout, Question 1

Explain why the concept of an alternation either is or is not useful for understanding this dataset.

Korean
a. [mul] ‘water’
b. [mulkama] ‘place for water’
c. [muɾe] ‘at the water’
d. [mal] ‘horse’
e. [malkama] ‘place for horse’
f. [maɾe] ‘at the horse’
g. [pul] ‘fire’
h. [puɾe] ‘at the fire’

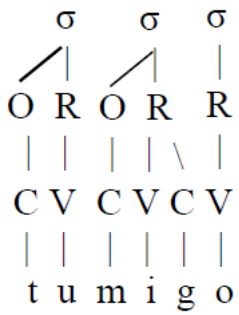
INSTRUCTOR NOTES: is useful – root morphemes alternate, so we can decide which sounds we need to analyze

Excellent (3) Good (2.2) Fair (1.7) Poor (0)

Question 2

Source: Day 11 Handout, Question 6

Explain why this structure either is or is not a correct application of the rule-based approach to syllabification, assuming that both the onset rule and the coda rule apply in this language, and the onset rule comes before the coda rule.



Peng's Rule-Based Approach:

(17) Rule-based approach

These two apply simultaneously and are universal.

a. Project a σ from each V.
Note 1: This involves also projecting a rime.
Note 2: This is about vowels, not V slots.

b. Adjoin a consonant to the immediate left of the rime as the onset of the following syllable, σ.
Note: This time, it's about C slots.

These two apply sequentially (in either order) and are langauge-specific.

c. (Onset Rule) Adjoin a consonant to the left of an onset to this onset.

d. (Coda Rule) Adjoin a consonant to the right of a rime to this rime.
Note: Again, (17c) and (17d) are about C slots.

INSTRUCTOR NOTES: no – the [g] should be in the onset because it's a simple onset (step b)

Excellent (3) Good (2.2) Fair (1.7) Poor (0)

Question 3

Source: Final Exam Dataset

Explain what the underlying representation of these morphemes would be and why.

'dig', 'future'

Present	*Past*	*Future*	*Progressive*	*Gloss*
[satfid]	[satmi]	[sater]	[satse]	'chew'
[jɤgɯdfɯd]	[jɤgɯdmɯ]	[jɤgɯder]	[jɤgɯdse]	'swallow'
[mikɤvfid]	[mikɤvmi]	[mikɤvɤr]	[mikɤvsɤ]	'search'
[lebfid]	[lebmi]	[leber]	[lebse]	'falsify'
[sirfid]	[sirmi]	[sirer]	[sirse]	'mix'
[kɤʔfid]	[kɤʔmi]	[kɤʔɤr]	[kɤʔsɤ]	'toss'
[dimfid]	[dimmi]	[dimer]	[dimse]	'handle'
[pegedfid]	[pegedmi]	[pegeder]	[pegedse]	'invent'
[zabfid]	[zabmi]	[zaber]	[zabse]	'pretend'
[rekɯlfɯd]	[rekɯlmɯ]	[rekɯler]	[rekɯlse]	'dig'

INSTRUCTOR NOTES: For any morpheme that doesn't alternate, its UR should be the same as its SR. For the morphemes that alternate, the back-vowel version occurs in the narrower set of contexts (after a back vowel of the same height), so should be the one that we write a rule for. The front-vowel version occurs in the wider / elsewhere set of contexts (after a front vowel and after a back vowel of a different height), so this should be the UR. So in this case, we have the non-alternating root morpheme 'dig' /rekɯl/ and the alternating suffix morpheme 'future' /er/.

Excellent (3) Good (2.2) Fair (1.7) Poor (0)

Question 4

Source: Day 10 Discussion

Explain why the given feature's value varies across this set of sounds.

[voice]

glottalized obstruents

INSTRUCTOR NOTES: includes both voiced and voiceless glottalized obstruents – obs. can themselves be voiced or voiceless

Excellent (3) Good (2.2) Fair (1.7) Poor (0)

Question 5

Source: Day 8 Handout, Question 7

Explain why each numbered, underlined statement is true or false. If it is false, explain one way that you could correct it.

Sound is an invisible phenomenon. Sound can travel through any substance, [1]such as a liquid, solid, or a gas. [2]It involves the transfer of the matter in that substance from one place to another.

Sound is a particular kind of wave known as [3]a compression wave. [4]When the molecules are really close together, we say they are "rarefied" and when they are really far apart, we say they are "compressed."

INSTRUCTOR NOTES: 1 - true.
2 - false (it involves the transfer of energy... or anything about the matter itself not moving but only vibrating, etc).
3 - true.
4 - false (when the molecules are really close together, we say they are compressed and when the molecules are really far apart, we say they are rarefied).

Excellent (3) Good (2.2) Fair (1.7) Poor (0)

Question 6

Source: Day 12 Handout, Question 7

Explain how you would figure out the underlying representations of the root morphemes in this dataset.

Southern Manyika dialect of Shona

Set 1:

a. [téŋg-á]	'buy'
b. [téŋg-és-á]	'sell'
c. [téŋg-és-ér-á]	'sell to'
d. [téŋg-és-ér-án-á]	'sell to each other'

Note: literally, 'sell' consists of two morphemes that combine to mean 'make buy.'

Set 2:

a. [èrèŋg-à]	'read'
b. [èrèŋg-ès-à]	'make read'
c. [èrèŋg-èr-à]	'read to'
d. [fùŋg-ìdz-ìr-àn-à]	'suspect each other'

INSTRUCTOR NOTES: the root morphemes do not alternate, so their URs should be the same as their SRs, but with autosegmental representations – so [teŋg] and H for 'buy' and [ereŋg] and L for 'read'

Excellent (3) Good (2.2) Fair (1.7) Poor (0)

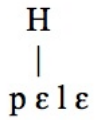
END OF EXAM

START OF EXAM
Student ID: 9246
2:40 - 3:00 PM

Question 1

Source: Quiz 10, Question 1

Section 4.2 of chapter 13 in the Peng textbook presented an autosegmental analysis of Mende tone distribution. Explain why the form shown below should NOT be the UR for any morpheme in Mende.



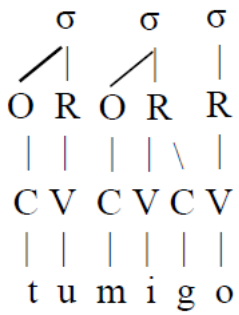
INSTRUCTOR NOTES: URs don't have pre-linked tones; the association lines are generated by rules (tone-mapping procedures)

Excellent (3) Good (2.2) Fair (1.7) Poor (0)

Question 2

Source: Day 11 Handout, Question 6

Explain why this structure either is or is not a correct application of the rule-based approach to syllabification, assuming that both the onset rule and the coda rule apply in this language, and the onset rule comes before the coda rule.



Peng's Rule-Based Approach:

(17) Rule-based approach

These two apply simultaneously and are universal.

a. Project a σ from each V.
   Note 1: This involves also projecting a rime.
   Note 2: This is about vowels, not V slots.

b. Adjoin a consonant to the immediate left of the rime as the onset of the following syllable, σ.
   Note: This time, it's about C slots.

These two apply sequentially (in either order) and are langauge-specific.

c. (Onset Rule) Adjoin a consonant to the left of an onset to this onset.

d. (Coda Rule) Adjoin a consonant to the right of a rime to this rime.
   Note: Again, (17c) and (17d) are about C slots.

INSTRUCTOR NOTES: no – the [g] should be in the onset because it's a simple onset (step b)

Excellent (3) Good (2.2) Fair (1.7) Poor (0)

Question 3

Source: Final Exam Dataset

Explain what rule or rules would apply in this dataset and how you know.

Present	*Past*	*Future*	*Progressive*	*Gloss*
[satfid]	[satmi]	[sater]	[satse]	'chew'
[jɤgɯdfɯd]	[jɤgɯdmɯ]	[jɤgɯder]	[jɤgɯdse]	'swallow'
[mikɤvfid]	[mikɤvmi]	[mikɤvɤr]	[mikɤvsɤ]	'search'
[lebfid]	[lebmi]	[leber]	[lebse]	'falsify'
[sirfid]	[sirmi]	[sirer]	[sirse]	'mix'
[kɤʔfid]	[kɤʔmi]	[kɤʔɤr]	[kɤʔsɤ]	'toss'
[dimfid]	[dimmi]	[dimer]	[dimse]	'handle'
[pegedfid]	[pegedmi]	[pegeder]	[pegedse]	'invent'
[zabfid]	[zabmi]	[zaber]	[zabse]	'pretend'
[rekɯlfɯd]	[rekɯlmɯ]	[rekɯler]	[rekɯlse]	'dig'

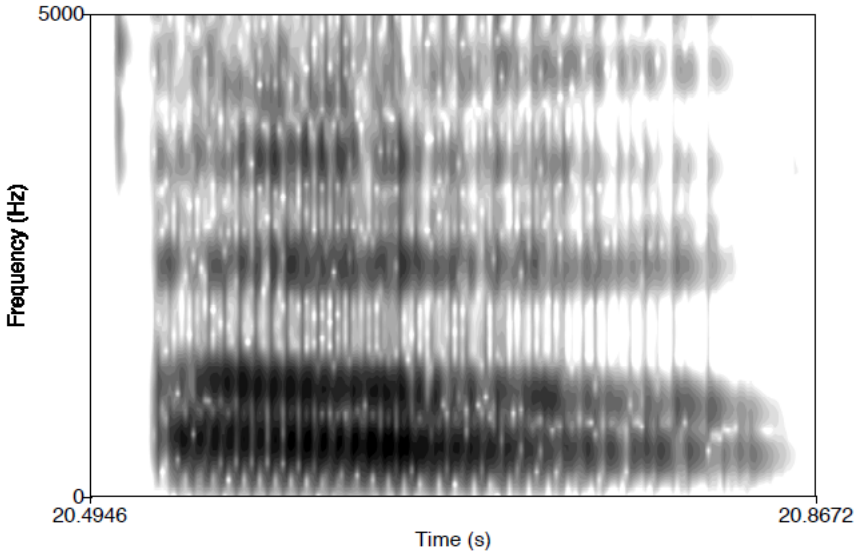
INSTRUCTOR NOTES: We need a rule of "Vowel Backing" as follows: [α high, +syllabic] –> [+back] / [α high, +back, +syllabic] C0 _. This rule says that a vowel will become back if it follows another back vowel of the same height, regardless of any intervening consonants. We know this is the rule we need because we need to account for the suffix alternations; the suffixes appear either with a front vowel or a back vowel. The back versions occur only after a back vowel of the same height (so are the focus of the rule); the front vowels occur elsewhere (after a front vowel, or after a back vowel of a different height). We could have two separate rules, one for mid vowels and one for high vowels, but this misses the generalization that these rules are basically doing the same thing.

Excellent (3) Good (2.2) Fair (1.7) Poor (0)

Question 4

Source: Day 8 Handout, Question 3

Explain what you see in the spectrogram that tells you about the properties of the sounds in the pictured word.



INSTRUCTOR NOTES: oh: just a vowel; clear formants; pretty steady with a slight downward trend of both; F1 is pretty close to F2, which means F2 is pretty low (=back V), and F1 isn't super low (=mid to low vowel)

Excellent (3) Good (2.2) Fair (1.7) Poor (0)

Question 5

Source: Quiz 8, Question 6

Explain why this is an incorrect statement.

Nasal consonants are [+ continuant] because they lack a central occlusion in the vocal tract.

INSTRUCTOR NOTES: nasals are [-cont], because air cannot escape through the mouth (there is a central occlusion / blockage)

Excellent (3) Good (2.2) Fair (1.7) Poor (0)

Question 6

Source: Quiz 7, Question 8

Based on this data from Lamba, explain why the pair given below either does or does not show that the consonants preceding the morpheme for 'with' are NOT responsible for the variation between [-il] and [-el].

čet-el-a & čit-il-a

(6) data from Lamba

čit-a	'do'	čit-il-a	'do with'
tul-a	'dig'	tul-il-a	'dig with'
čet-a	'spy'	čet-el-a	'spy with'
soŋk-a	'pay taxes'	soŋk-el-a	'pay taxes with'
pat-a	'scold'	pat-il-a	'scold with'

INSTRUCTOR NOTES: does show this – we see both [il] and [el], and they occur after the SAME preceding consonant, so the preceding consonant cannot be responsible

Excellent (3) Good (2.2) Fair (1.7) Poor (0)

END OF EXAM

START OF EXAM
Student ID: 4090
3:00 - 3:20 PM

Question 1

Source: Day 11 Handout, Question 12

Explain why what you're analyzing in the following dataset either is or is not an alternation.

Yawelmani

	UR	**SR**	**Gloss**
a.	/pok'-hin/	[pok'hin]	'found'
b.	/xat^{h}-hin/	[xat^{h}hin]	'ate'
c.	/lihm-hin/	[lihimhin]	'ran'
d.	/hogn-hin/	[hoginhin]	'floated'
e.	/ʔugn-hin/	[ʔuginhin]	'drank'
f.	/p^{h}aʔt'-hin/	[p^{h}aʔit'hin]	'fought'
g.	/liʔ-hatn-hin/	[liʔhatinhin]	'wanted to sink'
h.	/dos-hotn-hin/	[doshotinhin]	'was trying to tell'
i.	/hud-hatn-xoo-ʔ/	[hudhatinxoʔ]	'wanted to know about'
j.	/ʔa:ml-hin/	[ʔa:milhin]	'helped'

INSTRUCTOR NOTES: it's not an alternation – we don't have multiple *surface* forms of the same morpheme; the different forms are the UR and the SR, and so they are not predictable from phonological context (the SR is derived from the UR by rule)

Excellent (3) Good (2.2) Fair (1.7) Poor (0)

Question 2

Source: Final Exam Dataset

Explain what the underlying representation of these morphemes would be and why.

'dig', 'future'

Present	*Past*	*Future*	*Progressive*	*Gloss*
[satfid]	[satmi]	[sater]	[satse]	'chew'
[jɤgɯdfɯd]	[jɤgɯdmɯ]	[jɤgɯder]	[jɤgɯdse]	'swallow'
[mikɤvfid]	[mikɤvmi]	[mikɤvɤr]	[mikɤvsɤ]	'search'
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[sirfid]	[sirmi]	[sirer]	[sirse]	'mix'
[kɤʔfid]	[kɤʔmi]	[kɤʔɤr]	[kɤʔsɤ]	'toss'
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[pegedfid]	[pegedmi]	[pegeder]	[pegedse]	'invent'
[zabfid]	[zabmi]	[zaber]	[zabse]	'pretend'
[rekɯlfɯd]	[rekɯlmɯ]	[rekɯler]	[rekɯlse]	'dig'

INSTRUCTOR NOTES: For any morpheme that doesn't alternate, its UR should be the same as its SR. For the morphemes that alternate, the back-vowel version occurs in the narrower set of contexts (after a back vowel of the same height), so should be the one that we write a rule for. The front-vowel version occurs in the wider / elsewhere set of contexts (after a front vowel and after a back vowel of a different height), so this should be the UR. So in this case, we have the non-alternating root morpheme 'dig' /rekɯl/ and the alternating suffix morpheme 'future' /er/.

Excellent (3) Good (2.2) Fair (1.7) Poor (0)

Question 3

Source: Quiz 10, Question 3

Section 4.2 of chapter 13 in the Peng textbook presented an autosegmental analysis of Mende tone distribution. Explain why the form shown below should NOT be the UR for any morpheme in Mende.

INSTRUCTOR NOTES: URs don't have pre-linked tones; the association lines are generated by rules (tone-mapping procedures), AND there's no reason to violate the OCP in the UR of a single morpheme, but this one has two adjacent L tones

Excellent (3) Good (2.2) Fair (1.7) Poor (0)

Question 4

Source: Day 10 Discussion

Explain what the given feature's value is for this class of sounds, and why.

[LABIAL]

interdentals

INSTRUCTOR NOTES: 0, because interdentals aren't [LABIAL], but [LABIAL] is monovalent, so they're not [-labial]

Excellent (3) Good (2.2) Fair (1.7) Poor (0)

Question 5

Source: Quiz 9, Question 12

Explain the key differences between the templatic and the rule-based approaches to syllabification.

INSTRUCTOR NOTES: in the rule-based approach, you ONLY have rules, so you don't know ahead of time what possible syllable types you might get; you also need to know which rules apply in a language and what the order of the rules is – but in the templatic approach, you have a template that tells you ahead of time what the possible syllable types are, and you use the template in conjunction with rules; in the templatic approach, you also need to know the direction of syllabification (L to R or R to L), not the order of the rules [Note: should not mention anything about the units used in either approach)

Excellent (3) Good (2.2) Fair (1.7) Poor (0)

Question 6

Source: Day 8 Handout, Question 7

Explain why each numbered, underlined statement is true or false. If it is false, explain one way that you could correct it.

In speech, air is set in vibrating motion by the lungs, so the lungs are the source of most speech sounds. [14]The basic rate of vibration is called the fundamental frequency; [15]the fundamental frequency is also known as the timbre of the voice. In addition to the source, we can also talk about a filter: [16]the vocal folds act as a filter to shape the air from the lungs into the sounds we hear as different. [17]The mouth and nose act as resonance chambers, and these also affect the qualities of the sounds.

INSTRUCTOR NOTES: 14 - true.
15 - false (the fundamental frequency is also known as the pitch of the voice, or F0).
16 - false (the mouth and nose act as a filter to shape the air from the vocal folds in the sounds we hear as different, or vocal tract, or articulatory and resonance chambers, etc).
17 - true.

Excellent (3) Good (2.2) Fair (1.7) Poor (0)

END OF EXAM

START OF EXAM
Student ID: 1956
3:20 - 3:40 PM

Question 1

Source: Quiz 10, Question 3

Section 4.2 of chapter 13 in the Peng textbook presented an autosegmental analysis of Mende tone distribution. Explain why the form shown below should NOT be the UR for any morpheme in Mende.

INSTRUCTOR NOTES: URs don't have pre-linked tones; the association lines are generated by rules (tone-mapping procedures), AND there's no reason to violate the OCP in the UR of a single morpheme, but this one has two adjacent L tones

Excellent (3) Good (2.2) Fair (1.7) Poor (0)

Question 2

Source: Final Exam Dataset

Explain what the basic phonological analysis of this dataset is, and what the key pieces of evidence are.

Present	*Past*	*Future*	*Progressive*	*Gloss*
[satfid]	[satmi]	[sater]	[satse]	'chew'
[jɤgɯdfɯd]	[jɤgɯdmɯ]	[jɤgɯder]	[jɤgɯdse]	'swallow'
[mikɤvfid]	[mikɤvmi]	[mikɤvɤr]	[mikɤvsɤ]	'search'
[lebfid]	[lebmi]	[leber]	[lebse]	'falsify'
[sirfid]	[sirmi]	[sirer]	[sirse]	'mix'
[kɤʔfid]	[kɤʔmi]	[kɤʔɤr]	[kɤʔsɤ]	'toss'
[dimfid]	[dimmi]	[dimer]	[dimse]	'handle'
[pegedfid]	[pegedmi]	[pegeder]	[pegedse]	'invent'
[zabfid]	[zabmi]	[zaber]	[zabse]	'pretend'
[rekɯlfɯd]	[rekɯlmɯ]	[rekɯler]	[rekɯlse]	'dig'

INSTRUCTOR NOTES: The basic analysis here is that vowels of the same height need to agree in terms of backness. We see this in suffix alternations: there are four alternating suffixes, each with a back and front variant, and two of them have high vowels while two of them have mid vowels. Whenever the suffix comes after a root containing a back vowel at the same height as the suffix, the suffix also contains a back vowel, but when the root contains either a front vowel or a back vowel at a different height, the suffix contains the front vowel. Thus, we posit the front versions as the URs of the suffixes, because they occur in the wider set of contexts, and write a rule of vowel backing that only applies when the target vowel follows a back context vowel of the same height.

Excellent (3) Good (2.2) Fair (1.7) Poor (0)

Question 3

Source: Quiz 7, Question 8

Based on this data from Lamba, explain why the pair given below either does or does not show that the consonants preceding the morpheme for 'with' are NOT responsible for the variation between [-il] and [-el].

čet-el-a & čit-il-a

(6) data from Lamba

čit-a	'do'	čit-il-a	'do with'
tul-a	'dig'	tul-il-a	'dig with'
čet-a	'spy'	čet-el-a	'spy with'
soŋk-a	'pay taxes'	soŋk-el-a	'pay taxes with'
pat-a	'scold'	pat-il-a	'scold with'

INSTRUCTOR NOTES: does show this – we see both [il] and [el], and they occur after the SAME preceding consonant, so the preceding consonant cannot be responsible

Excellent (3) Good (2.2) Fair (1.7) Poor (0)

Question 4

Source: Day 10 Discussion

Explain what the given feature's value is for this class of sounds, and why.

[continuant]

glottals

INSTRUCTOR NOTES: 0, because there is no constriction in the vocal tract for manner features to apply

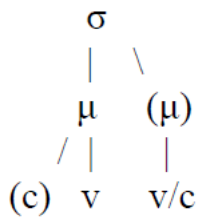
Excellent (3) Good (2.2) Fair (1.7) Poor (0)

Question 5

Source: Day 11 Handout, Question 5

Explain why this template either does or does not allow syllables of this type to occur.

VV



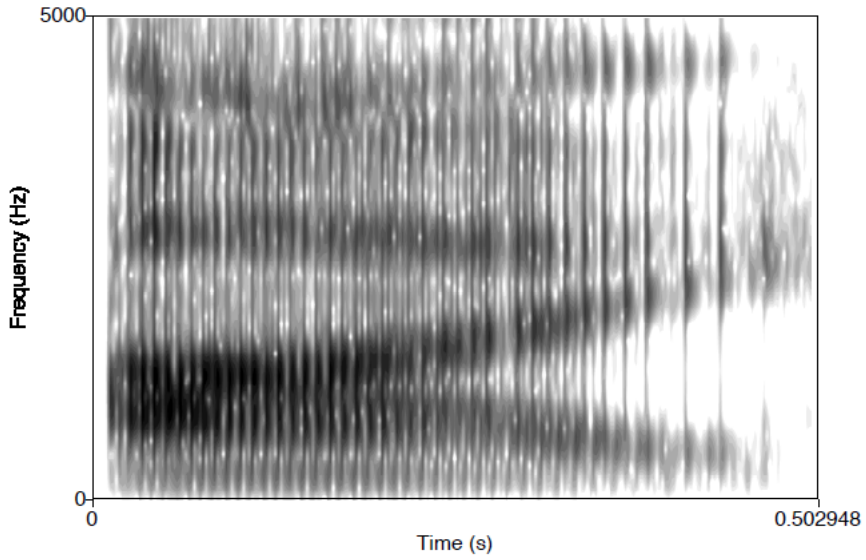
INSTRUCTOR NOTES: allowed

Excellent (3) Good (2.2) Fair (1.7) Poor (0)

Question 6

Source: Day 8 Handout, Question 3

Explain what you see in the spectrogram that tells you about the properties of the sounds in the pictured word.



INSTRUCTOR NOTES: I: clear formants; all dark, so just a vowel; changes so a diphthong; F1 pretty high and then falls a bit (= starts as low V and goes higher); F2 starts pretty low and then goes up (= starts as back V and goes fronter)

Excellent (3) Good (2.2) Fair (1.7) Poor (0)

END OF EXAM

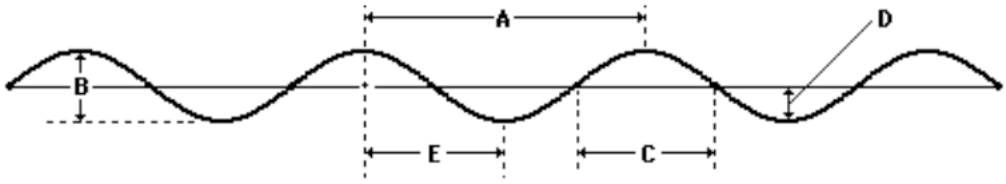
START OF EXAM
Student ID: 3737
3:40 - 4:00 PM

Question 1

Source: Day 8 Handout, Question 1

Explain what (if anything) the letter below represents on this waveform.

E



INSTRUCTOR NOTES: nothing (half wavelength or half period)

Excellent (3) Good (2.2) Fair (1.7) Poor (0)

Question 2

Source: Final Exam Dataset

Explain how you would go about figuring out what to analyse in this dataset.

Present	*Past*	*Future*	*Progressive*	*Gloss*
[satfid]	[satmi]	[sater]	[satse]	'chew'
[jɤgɯdfɯd]	[jɤgɯdmɯ]	[jɤgɯder]	[jɤgɯdse]	'swallow'
[mikɤvfid]	[mikɤvmi]	[mikɤvɤr]	[mikɤvsɤ]	'search'
[lebfid]	[lebmi]	[leber]	[lebse]	'falsify'
[sirfid]	[sirmi]	[sirer]	[sirse]	'mix'
[kɤʔfid]	[kɤʔmi]	[kɤʔɤr]	[kɤʔsɤ]	'toss'
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[pegedfid]	[pegedmi]	[pegeder]	[pegedse]	'invent'
[zabfid]	[zabmi]	[zaber]	[zabse]	'pretend'
[rekɯlfɯd]	[rekɯlmɯ]	[rekɯler]	[rekɯlse]	'dig'

INSTRUCTOR NOTES: The first thing to do is a morphological analysis. There should be morphemes that represent each of the four tenses / aspects (present, past, future, and progressive), and morphemes that represent each root. The morphemes representing the tenses appear as (relatively) consistent forms in the columns; the morphemes representing the roots appear as consistent forms in the rows. Doing this reveals that the final 3 segments in the present forms and the final two segments in the progressive forms are suffixes (there are no zero morphemes, and all components have a one-to-one correspondence). Then we check for alternations. The alternations here are in the suffixes; each of the four suffixes has two forms. There are therefore four alternations, with two allomorphs each. So, what we need to analyze are the alternations in the suffix forms, where we see vowels alternating. Two of the alternations involve [i] and [ɯ], and the other two alternations involve [e] and [ɤ]. In each case, there's a front vowel and a back vowel, which are otherwise matched for height and rounding, so we can likely generalize across the alternations.

Excellent (3) Good (2.2) Fair (1.7) Poor (0)

Question 3

Source: Day 12 Handout, Question 5

Explain which of the three rules will apply to the form given below, and whether each of those rules would have an effect or not.

Peng's Tone-Mapping Procedure for Mende:

1. L-to-R association: Associate the first tone to the first TBU, the second tone to the second TBU, and so on, until all tones or all TBUS are exhausted.
2. Last-TBU Linking: Associate any remaining unlinked tones to the last TBU.
3. Last-Tone Linking: Associate the last tone to any TBU without a tone.

H L H

/apute/

INSTRUCTOR NOTES: L-to-R association is the only one that applies; it links up each of the three tones to a TBU, and then the other rules have nothing to do, because their context isn't met (there are no leftover tones or TBUs)

Excellent (3) Good (2.2) Fair (1.7) Poor (0)

Question 4

Source: Quiz 7, Question 8

Based on this data from Lamba, explain why the pair given below either does or does not show that the consonants preceding the morpheme for 'with' are NOT responsible for the variation between [-il] and [-el].

čit-a & čit-il-a

(6) data from Lamba

čit-a	'do'	čit-il-a	'do with'
tul-a	'dig'	tul-il-a	'dig with'
čet-a	'spy'	čet-el-a	'spy with'
soŋk-a	'pay taxes'	soŋk-el-a	'pay taxes with'
pat-a	'scold'	pat-il-a	'scold with'

INSTRUCTOR NOTES: doesn't show this – only the [il] form is shown, so we can't judge whether [il] [el] is based on consonants or not

Excellent (3) Good (2.2) Fair (1.7) Poor (0)

Question 5

Source: Homework 5, Question 2

Explain why the insertion analysis is better than the deletion analysis for this dataset.

Fula

	Plain Word	**Suffixed Word**	**Word Gloss**	**Suffix Gloss**
a.	[war-a]	[war-d-a]	'come'	ASSOCIATIVE
b.	[nast-a]	[nasd-id-a]	'enter'	ASSOCIATIVE
c.	[jar-a]	[jar-d-a]	'drink'	COMPREHENSIVE
d.	[win^{n}d-a]	[win^{n}d-id-a]	'write'	COMPREHENSIVE
e.	[war-a]	[war-t-o]	'kill'	REFLEXIVE
f.	[jim-a]	[jim-t-o]	'sing'	REFLEXIVE
g.	[taʔj-a]	[taʔj-it-o]	'cut'	REFLEXIVE
h.	[fiɓ-a]	[fiɓ-t-a]	'tie'	REVERSIVE
i.	[hufn-o]	[hufn-it-o]	'put on a cap'	REVERSIVE
j.	[bark-a]	[bark-iɗ-a]	'blessing'	DENOMINATIVE
k.	[sem^{m}b-e]	[sem^{m}b-iɗ-a]	'strength'	DENOMINATIVE

INSTRUCTOR NOTES: If you have /VC/ as the underlying form of these suffixes, there's no reason to delete the vowel, because you'd have perfect CV syllables throughout the word. But if you have /C/ as the underlying form, it's clear that we occasionally need an extra vowel in order to allow syllabification to happen; otherwise, we'd end up with non-syllabifiable CCC sequences. That is, there's a phonological motivation for the insertion rule, but no motivation for the deletion rule.

Excellent (3) Good (2.2) Fair (1.7) Poor (0)

Question 6

Source: Quiz 8, Question 6

Explain why this is an incorrect statement.

Nasal consonants are [+continuant], because you can continue to make the sound for a long period of time (until you run out of breath).

INSTRUCTOR NOTES: nasals are [-cont], because air cannot escape through the mouth

Excellent (3) Good (2.2) Fair (1.7) Poor (0)

END OF EXAM

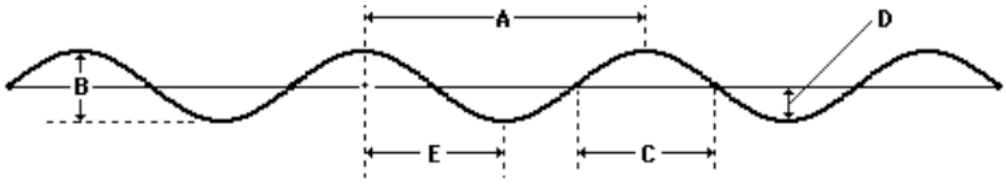
START OF EXAM
Student ID: 4465
4:00 - 4:20 PM

Question 1

Source: Day 8 Handout, Question 1

Explain what (if anything) the letter below represents on this waveform.

E



INSTRUCTOR NOTES: nothing (half wavelength or half period)

Excellent (3) Good (2.2) Fair (1.7) Poor (0)

Question 2

Source: Final Exam Dataset

Explain what the basic phonological analysis of this dataset is, and what the key pieces of evidence are.

Present	*Past*	*Future*	*Progressive*	*Gloss*
[satfid]	[satmi]	[sater]	[satse]	'chew'
[jɤgɯdfɯd]	[jɤgɯdmɯ]	[jɤgɯder]	[jɤgɯdse]	'swallow'
[mikɤvfid]	[mikɤvmi]	[mikɤvɤr]	[mikɤvsɤ]	'search'
[lebfid]	[lebmi]	[leber]	[lebse]	'falsify'
[sirfid]	[sirmi]	[sirer]	[sirse]	'mix'
[kɤʔfid]	[kɤʔmi]	[kɤʔɤr]	[kɤʔsɤ]	'toss'
[dimfid]	[dimmi]	[dimer]	[dimse]	'handle'
[pegedfid]	[pegedmi]	[pegeder]	[pegedse]	'invent'
[zabfid]	[zabmi]	[zaber]	[zabse]	'pretend'
[rekɯlfɯd]	[rekɯlmɯ]	[rekɯler]	[rekɯlse]	'dig'

INSTRUCTOR NOTES: The basic analysis here is that vowels of the same height need to agree in terms of backness. We see this in suffix alternations: there are four alternating suffixes, each with a back and front variant, and two of them have high vowels while two of them have mid vowels. Whenever the suffix comes after a root containing a back vowel at the same height as the suffix, the suffix also contains a back vowel, but when the root contains either a front vowel or a back vowel at a different height, the suffix contains the front vowel. Thus, we posit the front versions as the URs of the suffixes, because they occur in the wider set of contexts, and write a rule of vowel backing that only applies when the target vowel follows a back context vowel of the same height.

Excellent (3) Good (2.2) Fair (1.7) Poor (0)

Question 3

Source: Day 12 Handout, Question 7

What would be a good description of the alternation in this dataset?

Southern Manyika dialect of Shona

Set 1:

a. [téŋg-á]	‘buy’
b. [téŋg-és-á]	‘sell’
c. [téŋg-és-ér-á]	‘sell to’
d. [téŋg-és-ér-án-á]	‘sell to each other’

Note: literally, ‘sell’ consists of two morphemes that combine to mean ‘make buy.’

Set 2:

a. [èrèŋg-à]	‘read’
b. [èrèŋg-ès-à]	‘make read’
c. [èrèŋg-èr-à]	‘read to’
d. [fùŋg-ìdz-ìr-àn-à]	‘suspect each other’

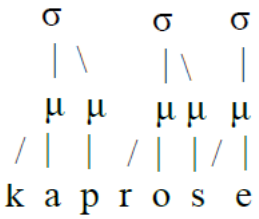
INSTRUCTOR NOTES: The suffixes that alternate appear with a H tone after a H-toned root, and wtih a L tone after a L-toned root. For example, the causative suffix appears with a H tone, as [és], in [-téŋg-és-á] ‘sell,’ but with a L tone, as [ès], in [-èrèŋg-ès-à] ‘make read.’

Excellent (3) Good (2.2) Fair (1.7) Poor (0)

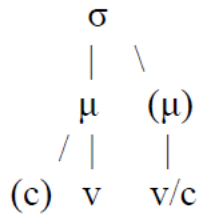
Question 4

Source: Day 11 Handout, Question 10

Explain why this structure either is or is not a correct application of the templatic-based approach to syllabification, using the provided template and assuming that syllabification proceeds from left to right.



Peng's Templatic Approach:



(30) Moraification
- a. Project a mora from each vowel.
- b. Associate a consonant to the immediate left of a mora to that mora.
- c. Project a mora from any remaining consonant.
- *Note: This last step is language-specific.*

(34) Extrasyllabicity
- Mark the last mora dominating a consonant as extrasyllabic.
- *Note 1: This step is not used in all languages.*
- *Note 2: The wording on this is a bit odd. What he means is "if the last segment in a word is a moraic consonant, mark it as extrasyllabic."*

(35) Syllabification
- *Note: This proceeds either left-to-right or right-to-left, depending on the language!*
- a. Project a syllable from [the first available] mora.
- b. Associate the moraic materials to the syllable.

(36) Conditions on association to a template
- a. Template Satisfaction: Satisfaction of templatic constraints is obligatory and is determined by the principles of prosody, both universal and language-specific.
- b. Maximization of Association: Associate as many phonological elements as possible.

INSTRUCTOR NOTES: yes; all syllables allowed by template, and this is what you get going L to R

Excellent (3) Good (2.2) Fair (1.7) Poor (0)

Question 5

Source: Day 10 Handout, Question 5

Explain why you either should or should not use phonological features in the INPUT of the given rule.

Vowel laxing: /i/ → [ɪ] / {[ɛ], [ɔ]} C_0_

INSTRUCTOR NOTES: no; it's a single sound, so replacing it with features just makes it hard to read

Excellent (3) Good (2.2) Fair (1.7) Poor (0)

Question 6

Source: Quiz 7, Question 8

Based on this data from Lamba, explain why the pair given below either does or does not show that the consonants preceding the morpheme for 'with' are NOT responsible for the variation between [-il] and [-el].

čet-el-a & čit-il-a

(6) data from Lamba

čit-a	'do'	čit-il-a	'do with'
tul-a	'dig'	tul-il-a	'dig with'
čet-a	'spy'	čet-el-a	'spy with'
soŋk-a	'pay taxes'	soŋk-el-a	'pay taxes with'
pat-a	'scold'	pat-il-a	'scold with'

INSTRUCTOR NOTES: does show this – we see both [il] and [el], and they occur after the SAME preceding consonant, so the preceding consonant cannot be responsible

Excellent (3) Good (2.2) Fair (1.7) Poor (0)

END OF EXAM

START OF EXAM
Student ID: 9376
4:20 - 4:40 PM

Question 1

Source: Day 9 Handout, Question 2

Explain why the concept of an alternation either is or is not useful for understanding this dataset.

Osage

a.	[dábri]	'three'	f.	[áðikhã ʒã]	'he lay down'
b.	[daʧpé]	'to eat'	g.	[ʧʔéðe]	'he killed it'
c.	[dakʔé]	'to dig'	h.	[ðéze]	'tongue'
d.	[dáli]	'good'	i.	[ðíe]	'you'
e.	[daʃtú]	'to bite'	j.	[ðíʃki]	'to wash'

INSTRUCTOR NOTES: is not useful – there are no alternations in this dataset, so we can't use them to figure out what sounds are relevant to analyse

Excellent (3) Good (2.2) Fair (1.7) Poor (0)

Question 2

Source: Homework 5, Question 1

Explain which sound should be removed to make this a natural class, and what the minimum set of features would be to describe the resulting natural class.

[i], [ɪ], [ɛ], [u], [ʊ]

INSTRUCTOR NOTES: [ɛ] should be removed, so that we have the natural class of high vowels; this could be minimally represented with [+syll, +high]

Excellent (3) Good (2.2) Fair (1.7) Poor (0)

Question 3

Source: Final Exam Dataset

Explain what the basic phonological analysis of this dataset is, and what the key pieces of evidence are.

Present	*Past*	*Future*	*Progressive*	*Gloss*
[satfid]	[satmi]	[sater]	[satse]	'chew'
[jɤgɯdfɯd]	[jɤgɯdmɯ]	[jɤgɯder]	[jɤgɯdse]	'swallow'
[mikɤvfid]	[mikɤvmi]	[mikɤvɤr]	[mikɤvsɤ]	'search'
[lebfid]	[lebmi]	[leber]	[lebse]	'falsify'
[sirfid]	[sirmi]	[sirer]	[sirse]	'mix'
[kɤʔfid]	[kɤʔmi]	[kɤʔɤr]	[kɤʔsɤ]	'toss'
[dimfid]	[dimmi]	[dimer]	[dimse]	'handle'
[pegedfid]	[pegedmi]	[pegeder]	[pegedse]	'invent'
[zabfid]	[zabmi]	[zaber]	[zabse]	'pretend'
[rekɯlfɯd]	[rekɯlmɯ]	[rekɯler]	[rekɯlse]	'dig'

INSTRUCTOR NOTES: The basic analysis here is that vowels of the same height need to agree in terms of backness. We see this in suffix alternations: there are four alternating suffixes, each with a back and front variant, and two of them have high vowels while two of them have mid vowels. Whenever the suffix comes after a root containing a back vowel at the same height as the suffix, the suffix also contains a back vowel, but when the root contains either a front vowel or a back vowel at a different height, the suffix contains the front vowel. Thus, we posit the front versions as the URs of the suffixes, because they occur in the wider set of contexts, and write a rule of vowel backing that only applies when the target vowel follows a back context vowel of the same height.

Excellent (3) Good (2.2) Fair (1.7) Poor (0)

Question 4

Source: Day 12 Handout, Question 6

Explain how you would figure out the underlying representations of stems in this dataset.

Kukuya

One-μ Stems:	Gloss:	Two-μ Stems:	Gloss:	Three-μ Stems:	Gloss:
[kì-bà]	'grasshopper-killer'	[kì-bàlà]	'to build'	[kì-bàlàgà]	'to change route'
[mà-bá]	'oil palms'	[mà-bágá]	'to show knives'	[lì-bálágá]	'fence'
[mɔ̀-să]	'weaving knot'	[mɔ̀-sàmí]	'conversation'	[m^{w}-àrəgí]	'younger brother'
[kì-kâ]	'to pick'	[kì-kárà]	'paralytic'	[kì-kárágà]*	'to be entangled'
[ndɛ́-bvĭ] (that's \/\ on the last V)	'he falls'	[ndɛ́-pălì]*	'he goes out'	[ndɛ́-kàlágì]	'he turns around'

INSTRUCTOR NOTES: We don't see any alternations in this dataset, so we're just looking at static patterns; we don't have completely contrastive examples, but we do have tonal contrasts – a single-mora root, for example, can be L, H, LH, HL, or LHL (and some of these roots are even segmentally contrastive, too). We see that these are the five basic patterns of tone, and they can get stretched out or squished together, but there are all five, so we assume that these are the tonal invntory. For any actual word, we take its segments and combine it (without associaton lines) with the appropriate tonal category.

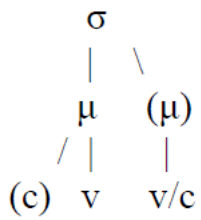
Excellent (3) Good (2.2) Fair (1.7) Poor (0)

Question 5

Source: Day 11 Handout, Question 5

Explain why this template either does or does not allow syllables of this type to occur.

CVVC



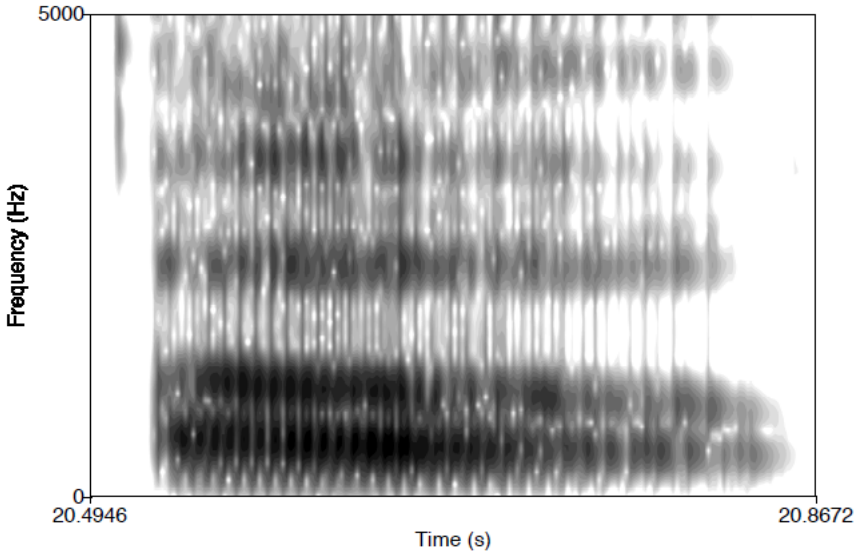
INSTRUCTOR NOTES: not allowed

Excellent (3) Good (2.2) Fair (1.7) Poor (0)

Question 6

Source: Day 8 Handout, Question 3

Explain what you see in the spectrogram that tells you about the properties of the sounds in the pictured word.



INSTRUCTOR NOTES: oh: just a vowel; clear formants; pretty steady with a slight downward trend of both; F1 is pretty close to F2, which means F2 is pretty low (=back V), and F1 isn't super low (=mid to low vowel)

Excellent (3) Good (2.2) Fair (1.7) Poor (0)

END OF EXAM

START OF EXAM
Student ID: empty
4:40 - 5:00 PM

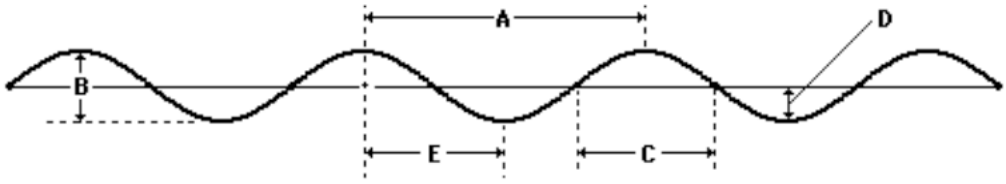
START OF EXAM
Student ID: 3347
5:00 - 5:20 PM

Question 1

Source: Day 8 Handout, Question 1

Explain what (if anything) the letter below represents on this waveform.

D



INSTRUCTOR NOTES: amplitude

Excellent (3) Good (2.2) Fair (1.7) Poor (0)

Question 2

Source: Day 10 Discussion

Explain what the given feature's value is for this class of sounds, and why.

[strident]
glides

INSTRUCTOR NOTES: 0, because [strident] applies only to obstruents, and glides are sonorants

Excellent (3) Good (2.2) Fair (1.7) Poor (0)

Question 3

Source: Final Exam Dataset

Explain what rule or rules would apply in this dataset and how you know.

Present	*Past*	*Future*	*Progressive*	*Gloss*
[satfid]	[satmi]	[sater]	[satse]	'chew'
[jɤgɯdfɯd]	[jɤgɯdmɯ]	[jɤgɯder]	[jɤgɯdse]	'swallow'
[mikɤvfid]	[mikɤvmi]	[mikɤvɤr]	[mikɤvsɤ]	'search'
[lebfid]	[lebmi]	[leber]	[lebse]	'falsify'
[sirfid]	[sirmi]	[sirer]	[sirse]	'mix'
[kɤʔfid]	[kɤʔmi]	[kɤʔɤr]	[kɤʔsɤ]	'toss'
[dimfid]	[dimmi]	[dimer]	[dimse]	'handle'
[pegedfid]	[pegedmi]	[pegeder]	[pegedse]	'invent'
[zabfid]	[zabmi]	[zaber]	[zabse]	'pretend'
[rekɯlfɯd]	[rekɯlmɯ]	[rekɯler]	[rekɯlse]	'dig'

INSTRUCTOR NOTES: We need a rule of "Vowel Backing" as follows: [α high, +syllabic] –> [+back] / [α high, +back, +syllabic] C0 _. This rule says that a vowel will become back if it follows another back vowel of the same height, regardless of any intervening consonants. We know this is the rule we need because we need to account for the suffix alternations; the suffixes appear either with a front vowel or a back vowel. The back versions occur only after a back vowel of the same height (so are the focus of the rule); the front vowels occur elsewhere (after a front vowel, or after a back vowel of a different height). We could have two separate rules, one for mid vowels and one for high vowels, but this misses the generalization that these rules are basically doing the same thing.

Excellent (3) Good (2.2) Fair (1.7) Poor (0)

Question 4

Source: Homework 5, Question 2

Explain why the insertion analysis is better than the deletion analysis for this dataset.

Fula

	Plain Word	**Suffixed Word**	**Word Gloss**	**Suffix Gloss**
a.	[war-a]	[war-d-a]	'come'	ASSOCIATIVE
b.	[nast-a]	[nasd-id-a]	'enter'	ASSOCIATIVE
c.	[jar-a]	[jar-d-a]	'drink'	COMPREHENSIVE
d.	[win^{n}d-a]	[win^{n}d-id-a]	'write'	COMPREHENSIVE
e.	[war-a]	[war-t-o]	'kill'	REFLEXIVE
f.	[jim-a]	[jim-t-o]	'sing'	REFLEXIVE
g.	[taʔj-a]	[taʔj-it-o]	'cut'	REFLEXIVE
h.	[fiɓ-a]	[fiɓ-t-a]	'tie'	REVERSIVE
i.	[hufn-o]	[hufn-it-o]	'put on a cap'	REVERSIVE
j.	[bark-a]	[bark-iɗ-a]	'blessing'	DENOMINATIVE
k.	[sem^{m}b-e]	[sem^{m}b-iɗ-a]	'strength'	DENOMINATIVE

INSTRUCTOR NOTES: If you have /VC/ as the underlying form of these suffixes, there's no reason to delete the vowel, because you'd have perfect CV syllables throughout the word. But if you have /C/ as the underlying form, it's clear that we occasionally need an extra vowel in order to allow syllabification to happen; otherwise, we'd end up with non-syllabifiable CCC sequences. That is, there's a phonological motivation for the insertion rule, but no motivation for the deletion rule.

Excellent (3) Good (2.2) Fair (1.7) Poor (0)

Question 5

Source: Day 9 Handout, Question 5

Explain which morpheme(s) in this dataset alternate and how that helps you do a phonological analysis.

English

a. [tæk]	'tack'	j. [hɪɾɚ]	'hitter'
b. [tɹu]	'true'	k. [lɑɪɾɪŋ]	'lighting'
c. [tɑɪm]	'time'	l. [bæɾɚ]	'batter'
d. [tiɹ]	'tear'	m. [miɾɚ]	'meter'
e. [bæt]	'bat'	n. [lɑɪɾɚ]	'lighter'
f. [weɪt]	'wait'	o. [bæɾl̩]	'battle'
g. [hɪt]	'hit'	p. [kæɾɚpɪlɚ]	'caterpillar'
h. [lɑɪt]	'light'	q. [weɪɾɪŋ]	'waiting'
i. [bɔt]	'bought'		

INSTRUCTOR NOTES: some of the roots alternate (such as 'light'), so we know that we need to analyze the predictable occurrence of [t] vs. [flap]

Excellent (3) Good (2.2) Fair (1.7) Poor (0)

Question 6

Source: Day 12 Handout, Question 6

Explain how you would figure out the underlying representations of stems in this dataset.

Kukuya

One-μ Stems:	**Gloss:**	**Two-μ Stems:**	**Gloss:**	**Three-μ Stems:**	**Gloss:**
[kì-bà]	'grasshopper-killer'	[kì-bàlà]	'to build'	[kì-bàlàgà]	'to change route'
[mà-bá]	'oil palms'	[mà-bágá]	'to show knives'	[lì-bálágá]	'fence'
[mɔ̀-să]	'weaving knot'	[mɔ̀-sàmí]	'conversation'	[m^{w}-àrəgí]	'younger brother'
[kì-kâ]	'to pick'	[kì-kárà]	'paralytic'	[kì-kárágà]*	'to be entangled'
[ndɛ́-bvĭ] (that's \/\ on the last V)	'he falls'	[ndɛ́-pălì]*	'he goes out'	[ndɛ́-kàlágì]	'he turns around'

INSTRUCTOR NOTES: We don't see any alternations in this dataset, so we're just looking at static patterns; we don't have completely contrastive examples, but we do have tonal contrasts – a single-mora root, for example, can be L, H, LH, HL, or LHL (and some of these roots are even segmentally contrastive, too). We see that these are the five basic patterns of tone, and they can get stretched out or squished together, but there are all five, so we assume that these are the tonal invntory. For any actual word, we take its segments and combine it (without associaton lines) with the appropriate tonal category.

Excellent (3) Good (2.2) Fair (1.7) Poor (0)

END OF EXAM

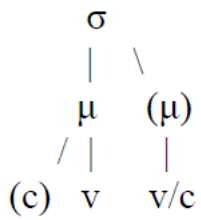
START OF EXAM
Student ID: 3420
5:20 - 5:40 PM

Question 1

Source: Day 11 Handout, Question 5

Explain why this template either does or does not allow syllables of this type to occur.

CVC



INSTRUCTOR NOTES: allowed

Excellent (3) Good (2.2) Fair (1.7) Poor (0)

Question 2

Source: Day 9 Handout, Question 4

Explain which morpheme(s) in this dataset alternate and how that helps you do a phonological analysis.

Japanese. **(- marks a morpheme boundary)**

'to put out'

Form	*Pronunciation*
present	[das-ɯ]
provisional	[das-eba]
causative	[das-aɾeɾɯ]
tentative	[das-oo]
past	[daʃ-ita]
participial	[daʃ-ite]
conditional	[daʃ-itaɾa]

'to lend'

Form	*Pronunciation*
present	[kas-ɯ]
negative	[kas-anai]
volitional	[kaʃ-itai]
past	[kaʃ-ita]
inchoative	[kas-oo]

'to erase'

Form	*Pronunciation*
present	[kes-ɯ]
negative	[kes-anai]
past	[keʃ-ita]
conditional	[keʃ-itaɾa]
potential	[kes-eɾɯ]

INSTRUCTOR NOTES: each verb root alternates, so we know the sounds we need to analyze are the predictable occurrence of [s] and [ʃ]

Excellent (3) Good (2.2) Fair (1.7) Poor (0)

Question 3

Source: Final Exam Dataset

Explain what the underlying representation of these morphemes would be and why.

'invent', 'progressive'

Present	*Past*	*Future*	*Progressive*	*Gloss*
[satfid]	[satmi]	[sater]	[satse]	'chew'
[jɤgɯdfɯd]	[jɤgɯdmɯ]	[jɤgɯder]	[jɤgɯdse]	'swallow'
[mikɤvfid]	[mikɤvmi]	[mikɤvɤr]	[mikɤvsɤ]	'search'
[lebfid]	[lebmi]	[leber]	[lebse]	'falsify'
[sirfid]	[sirmi]	[sirer]	[sirse]	'mix'
[kɤʔfid]	[kɤʔmi]	[kɤʔɤr]	[kɤʔsɤ]	'toss'
[dimfid]	[dimmi]	[dimer]	[dimse]	'handle'
[pegedfid]	[pegedmi]	[pegeder]	[pegedse]	'invent'
[zabfid]	[zabmi]	[zaber]	[zabse]	'pretend'
[rekɯlfɯd]	[rekɯlmɯ]	[rekɯler]	[rekɯlse]	'dig'

INSTRUCTOR NOTES: For any morpheme that doesn't alternate, its UR should be the same as its SR. For the morphemes that alternate, the back-vowel version occurs in the narrower set of contexts (after a back vowel of the same height), so should be the one that we write a rule for. The front-vowel version occurs in the wider / elsewhere set of contexts (after a front vowel and after a back vowel of a different height), so this should be the UR. So in this case, we have the non-alternating root morpheme 'invent' /peged/ and the alternating suffix morpheme 'progressive' /se/.

Excellent (3) Good (2.2) Fair (1.7) Poor (0)

Question 4

Source: Quiz 8, Question 3

Explain why this featural specification either does or does not match the given sound.

[+consonantal], [-sonorant]

[f]

INSTRUCTOR NOTES: matches

Excellent (3) Good (2.2) Fair (1.7) Poor (0)

Question 5

Source: Day 12 Handout, Question 7

What would be a good description of the alternation in this dataset?

Southern Manyika dialect of Shona

Set 1:

a. [téŋg-á]	‘buy’
b. [téŋg-és-á]	‘sell’
c. [téŋg-és-ér-á]	‘sell to’
d. [téŋg-és-ér-án-á]	‘sell to each other’

Note: literally, ‘sell’ consists of two morphemes that combine to mean ‘make buy.’

Set 2:

a. [èrèŋg-à]	‘read’
b. [èrèŋg-ès-à]	‘make read’
c. [èrèŋg-èr-à]	‘read to’
d. [fùŋg-ìdz-ìr-àn-à]	‘suspect each other’

INSTRUCTOR NOTES: The suffixes that alternate appear with a H tone after a H-toned root, and wtih a L tone after a L-toned root. For example, the causative suffix appears with a H tone, as [és], in [-téŋg-és-á] ‘sell,’ but with a L tone, as [ès], in [-èrèŋg-ès-à] ‘make read.’

Excellent (3) Good (2.2) Fair (1.7) Poor (0)

Question 6

Source: Day 8 Handout, Question 7

Explain why each numbered, underlined statement is true or false. If it is false, explain one way that you could correct it.

We can visualize speech through the use of spectra and spectrograms. [18]A spectrogram shows frequency on the horizontal axis and amplitude on the vertical axis. [19]A spectrum, on the other hand, shows frequency on the vertical axis and time along the horizontal axis.

[20]On a spectrogram, the dark bars are called formants. [21]The formants correspond to the amplitude peaks on a spectrum.

INSTRUCTOR NOTES: 18 - false (A spectrum shows frequency on the horizontal axis and amplitude on the vertical axis, or, a spectrogram shows frequency on the vertical axis and time along the horizontal axis).
19 - false (A spectrum shows frequency on the horizontal axis and amplitude on the vertical axis, or, a spectrogram shows frequency on the vertical axis and time along the horizontal axis).
20 - true.
21 - true.

Excellent (3) Good (2.2) Fair (1.7) Poor (0)

END OF EXAM