## LIGN 101 Section Activity - Phonology

## 1 Teayguidid

This first dataset, you'll go over with your IA as a group to learn the process. You're going to look at [ w$]$ and [ v ], as well as [i] and [j], to determine if they represent two different phonemes, if they're allophones of the same phoneme, and what's the rule?

| Teayguidid | Gloss | Teayguidid | Gloss |
| :--- | :--- | :--- | :--- |
| uwu | 'cute' | juwu | 'somebody who is cute' |
| ivar | 'bridge' | jivar | 'somebody who builds bridges' |
| lot | 'path' | ilot | 'somebody who finds paths' |
| avi | 'mural' | javi | 'somebody who paints murals' |
| vja | 'cloud' | ivja | 'somebody who vapes' |
| uvu | 'grape' | juvu | 'somebody who grows grapes' |
| jawa | 'music' | ijawa | 'somebody who makes music' |
| tim | 'fire' | itim | 'somebody who lights fires' |

## 2 Alafona

You happen across a dataset collected by the Great Explorer Emilio Madeupdata while exploring the top secret third floor of the Geisel library, showing words in the Alafona language. All words below are in the IPA, and you should assume that the data are complete, accurately representing the full breadth of the distribution of the sounds in this language.

| Alafona | English | Alafona | English |
| :--- | :--- | :--- | :--- |
| kate | 'fish' | katesi | 'tiny fish' |
| segro | 'to complain' | segrozi | 'tantrum' |
| kerok | 'to yeet' | kerogma | 'you yeet' |
| kiro | 'to drink' | kiroma | 'you drink' |
| segmo | 'to have' | segmoma | 'you have' |
| lake | 'to swim' | lakema | 'you swim' |
| rik | 'look' | riksi | 'glance' |
| kendak | 'dog' | kendagzi | 'wolf' |
| sigro | 'to talk' | sigroma | 'you talk' |

2.1: First, you notice something going on with $[\mathrm{g}]$ and $[\mathrm{k}]$. You have a hunch that they may be two allophones of the same phoneme. Describe their distribution in the data, talking about what seems to co-occur with each sound and whether there seems to be a 'cause' for the change. You should likely again list out the environment in which each sound occurs to best see the patterns. Make your descriptions as simple and as general as possible, referring to groups of sounds where you can.
2.2: Which one of the two allophones can be predicted in the dataset? The allophone which you cannot predict, or which is much more complicated to predict, should serve as the 'underlying phoneme', from which the other is derived (the phoneme on the left side of the arrow in the phonological rule.
2.3: Write a rule that accounts for the distribution of $[\mathrm{g}]$ and $[\mathrm{k}]$ in Alafona. Make the rule as general as possible, referring to natural classes where appropriate.
2.4: Emilio has scribbled in the margins 'I just can't figure out whether [e] and [i] are phonemes, or allophones of the same phoneme. If only l'd taken LIGN 101!!!? Using the dataset above, determine if [ e ] and [i] are different phonemes, or allophones of the same phoneme.

If you decide they're allophones of the same phoneme, then (1) describe the distribution of each, paying attention to natural classes where necessary, (2) state the underlying phoneme, and (3) write a phonological rule which accounts for their distribution.

If you decide they're different phonemes, explain how you came to that conclusion.
2.5: This isn't phonology, but what would the word ''kendaksi', scribbled in the margins, mean? How can this word exist when'kendagzi" is already in the dataset?

## 3 Fikshiona

Another dataset falls out from the stack of weathered datasets. Again, as with all datasets, all words below are in the IPA, and you should assume that the data are complete, accurately representing the full breadth of the distribution of the sounds in this language.

| Fikshiona | English | Fikshiona | English | Fikshiona | English |
| :--- | :--- | :--- | :--- | :--- | :--- |
| andu | 'walk' | andos | 'he walks' | andoma | 'I walk' |
| motu | 'eat' | motos | 'he eats' | motoma | 'I eat' |
| nu | 'run' | nos | 'he runs' | noma | 'I run' |
| mota | 'ride' | motas | 'he rides' | motama | 'I ride' |
| renu | 'renew' | renos | 'he renews' | renoma | 'I renew' |
| sampu | 'dance' | sampos | 'he dances' | sampoma | 'I dance' |
| enope | 'sleep' | enopes | 'he sleeps' | enopema | 'I sleep' |
| modu | 'show' | modos | 'he shows' | modoma | 'I show' |
| oimu | 'resist' | oimos | 'he resists' | oimoma | 'I resist' |

3.1: Emilio has written in the margins that [ $\mathbf{u}$ ] and [ $\mathbf{0}$ ] are in complementary distribution. Describe the distribution of each allophone. (You're not required to list out the environment in which each sound occurs, but it's a very good idea, to best see the patterns.) Make your descriptions as simple and as general as possible, referring to groups of sounds where you can. Do not write a rule where the environment is based on certain morphemes or uses 'in the he/l' forms. For 101, your phonological explanations should only make reference to sounds, categories of sounds, and word boundaries.
3.2: Which one of the two allophones can be predicted in the dataset? The allophone which you cannot predict, or which is much more complicated to predict, should serve as the 'underlying phoneme', from which the other is derived (the phoneme on the left side of the arrow in the phonological rule.
3.3: Write a rule that accounts for the distribution of [ 0 ] and [u] in Fikshiona. Make the rule as general as possible, referring to natural classes where appropriate.
3.4: Now, go a step further than Emilio could, and identify what's going on with [ t$]$ and [d]. Do they represent two different phonemes? Are they allophones of the same phoneme? Make an argument, and if needed, write a rule.

## 4 Fabrikatido

Emilio sends you another data set by fax (after all, he is from the distant past), showing words in the Fabrikatido language. All words below are in the IPA, and you should assume that the data are complete, accurately representing the full breadth of the distribution of the sounds in this language.

| Fabrikatido | English | Fabrikatido | English |
| :--- | :--- | :--- | :--- |
| mitem | 'kibble' | isfige | 'you appoint' |
| mikila | 'whip' | Iknema | 'fixture' |
| radine | 'metal' | milık | 'stone' |
| mIm | 'barrel' | mifi | 'stuff' |
| rIPa | 'edge' | mime | 'respect' |
| latita | 'line' | gadil | 'house' |
| risina | 'sip' | hekamin | 'lecture' |
| mrfani | 'hook' | rimanik | 'he throws' |

4.1: Emilio complains to you that he's just unable to figure out the phonological situation with [i] and [r]. Using the dataset above, determine if [i] and [ I$]$ are different phonemes, or allophones of the same phoneme.
If you decide they're allophones of the same phoneme, then (1) describe the distribution of each, paying attention to natural classes where necessary, (2) state the underlying phoneme, and (3) write a phonological rule which accounts for their distribution.

If you decide they're different phonemes, explain how you came to that conclusion.
4.2 Emilio is also having trouble determining the phonemic status of $[e]$ and $[\varepsilon]$. Using the dataset above, determine if $[e]$ and $[\varepsilon]$ are different phonemes, or allophones of the same phoneme.

If you decide they're allophones of the same phoneme, then (1) describe the distribution of each, paying attention to natural classes where necessary, (2) state the underlying phoneme, and (3) write a phonological rule which accounts for their distribution.

If you decide they're different phonemes, explain how you came to that conclusion.

## 5 Russian

In Russian, the relationship between voiced and voiceless stops and fricatives is interesting. Take a look at the data below, and come up with a rule describing their relationship, paying attention to the underlying forms needed to create these forms. ('Nominative' is a form used in a sentence like 'The bread is old'. 'Dative' is a form used in a sentence like 'The grains are for bread'. The difference between these cases is not meaningful for solving the problem.)

| Nominative | Dative | Gloss |
| :--- | :--- | :--- |
| [xlep] | [xlebu] | 'bread' |
| [grip] | [gribu] | 'mushroom' |
| [grop] | [grobu] | 'coffin' |
| [tjerep] | [tferepu] | 'skull' |
| [xolop] | [xolopu] | 'bondman' |
| [trup] | [trupu] | 'corpse' |
| [sat] | [sadu] | 'garden' |
| [prut] | [prudu] | 'pond' |
| [tsvet] | [tsvetu] | 'color' |
| [zakat] | [zakatu] | 'sunset' |
| [ras] | [razu] | 'time' |
| [zakas] | [zakazu] | 'order' |
| [les] | [lesu] | 'forest' |
| [us] | [usu] | 'whisker' |
| [storof] | [storozu] | 'guard' |
| [du]] | [dufu] | 'shower' |
| [rok] | [rogu] | 'horn' |
| [porok] | [porogu] | 'threshold' |
| [rak] | [raku] | 'crayfish' |
| [porok] | [poroku] | 'vice' |

Note: This problem is very tricky! It's doing something very interesting and a bit different than what you've seen before. Don't feel badly if you're struggling here, or if it feels like the methods that have previously worked aren't quite working. Be creative, and know that it's harder than anything else you'll be asked to do in 101.

