Tutorial 3
Oct. 1 2013

DOING PHONOLOGY PROBLEMS

Are there any **minimal pairs**?

e.g. [tu] ~ [du]

If *yes*: **separate phonemes**

If *no*: Are they **phonetically similar**?

e.g. [t] ~ [d]
or
[p] ~ [pʰ]

If *no*: **separate phonemes**

If *yes*: Are they in **complementary distribution**?

Do they occur in different environments?

If *no*: **separate phonemes**

If *yes*: **allophones** of the same phoneme
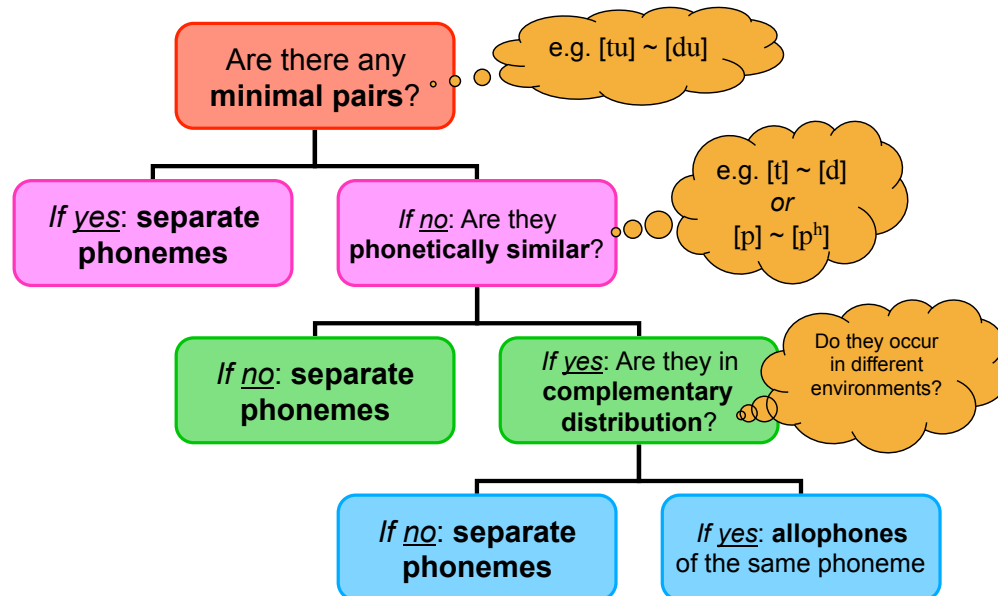
Finnish

Determine if the voiceless stop [t] and voiced stop [d] represent different phonemes in Finnish or if they are allophones of the same phoneme. If they are allophones of the same phoneme, write a phonological rule that predicts their distribution.

[kadot]	failures	[madon]	of a worm
[kate]	cover	[maton]	of a rug
[katot]	roofs	[ratas]	wheel
[kade]	envious	[raidan]	of a track

Italian

Determine if the alveolar nasal [n] and the velar nasal [ŋ] represent different phonemes in Italian or if they are allophones of the same phoneme. If they are allophones of the same phoneme, write a phonological rule that predicts their distribution

[nero]	black	[ʤente]	people
[tenda]	tent	[tinta]	dye
[rana]	frog	[aŋke]	also
[faŋgo]	mud	[tiŋgo]	I die

Write-Up Exercise   The goal of this exercise is for you to learn what a model answer is to phonology problem sets. This should help you when answering these types of questions on the midterm and final.

Consider the following three versions of possible answers to the above question. Which one is the best response? What qualities are good for each? What qualities are not so good?

Number 1. The Italian phones n and ŋ are allophones. The sounds are in complementary distribution such that [n] occurs before [e], [d], [a], and [t], while [ŋ] occurs only before [k] and [g]. We will represent the phoneme as /n/ because it has a broad distribution. There is a Place Assimilation rule: /n/ → [ŋ] / __ C$_{[+velar]}$.

Number 2. Based on the above data, the Italian phones [n] and [ŋ] appear to represent allophones of the same phoneme. Not only is there a lack of minimal pairs in the data set but the two sounds are also phonetically similar: both phones are nasal consonants. Furthermore, the two phones are in complementary distribution such that [n] occurs before other alveolar consonants and vowels, while [ŋ] occurs only before velar consonants. Because [n] has a less restricted distribution than [ŋ], we should represent the phoneme as /n/. The rule that derives this phonological alternation is a Place Assimilation rule: /n/ → [ŋ] / __ C$_{[+velar]}$.

Number 3. These two sounds are allophones because there is no minimal pairs. We can write a rule like this: /n/ → [ŋ] / __ C$_{[+velar]}$. [ŋ] appears before velars (e.g., [aŋke], *also*) and [n] appears before non-velar sounds (e.g., [tinta], *dye*). [n] appears before more sounds therefore the phoneme should be /n/. It's a Place Assimilation Rule.

Korean

Determine if the voiceless alveolar fricative [s] and the voiceless palatal fricative [ʃ] represent different phonemes in Korean or if they are allophones of the same phoneme. If they are allophones of the same phoneme, write a phonological rule that predicts their distribution

[son]	hand	[sɔm]	sack
[sosal]	novel	[sɛk]	color
[us]	upper	[ʃihap]	game
[ʃipam]	thirteen	[ʃinho]	signal
[maʃi]	delicious		

1. Are there any minimal pairs?

   No.

2. Are they phonetically similar and therefore plausibly allophones of the same phoneme?

   Yes. They only differ with respect to place of articulation.

3. Are they in complementary distribution?

   Yes! [ʃ] occurs only before [i]. [s] occurs before other vowels and word finally. Therefore, the evidence suggests that [ʃ] and [s] are allophones of one phoneme.

4. How do we represent the phoneme?

   Use /s/ because it has a broader distribution. It occurs in front of [o], [ɔ], [a], [ɛ] and word finally.

5. Write a rule.

   $$/s/ \rightarrow [ʃ] \; / \; \_ \; V_{[+high,+front]} \qquad \text{(Place Assimilation)}$$

Based on the Italian examples, write up this answer in prose keeping in mind the Italian example (i.e., include good organization, clear reasoning, use of terminology, examples etc.). Write your name on it and hand it into your TA.