Phonemic analysis

Unit 3, Class 3

NAMS

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Phonemic analysis

- The process of analyzing a language to find its phonemes, allophones of the phonemes, and the distribution of the allophones.

To determine if [X] and [Y] are allophones of the same phoneme or different phonemes.

Check for minimal pair.

- Is there a minimal pair for [X] vs. [Y]? Do two words have all else identical except the difference in [X] and [Y] in the same position? If yes, then this single pair is sufficient to confirm that [X] and [Y] are different phonemes.
- If no such minimal pair exists, move on.

Check for complementary distribution.

- Sound [Y] never occurs in contexts where sound [X] occurs, and [X] never occurs in contexts where [Y] occurs.
- What environments are the (allo)phones found in? The following or any other notation can be used.

[X]	[Y]
#_i	#_o
a_i	i_i
s_o	s_#
e_#	a_l
"#" = word boundary	

- Study of the phonetic contexts (or environments) listed:
  - What sounds come before and after the sounds in question ([X] and [Y])?
  - Do the sounds occur in the same/overlapping context?
  - Is there a pattern – a sound occurs in one context and the other in another.
  - What generalisations can be made?
- If two sounds appear to occur in the same environments, their distributions are overlapping. You should conclude that these sounds are different phonemes (unless you have evidence for free variation).
  - The evidence for free variation: Two words which differ phonetically on only one sound (i.e., looks like a minimal pair), but whose meaning remains the same.
- If you can find a conditioning environment, that is, an environment in which one sound is found and the other is not, then you can conclude that the two sounds are in complementary distribution.
  - They are, therefore, allophones of the same phoneme.

Selecting the basic allophone and a derived allophone

- The basic allophone is the one which has the broader distribution, i.e. is found in the most environments (e.g., [ɖ]).
- The derived allophone is the one which is most restricted in the phonetic contexts in which it appears (e.g., [ɽ]).
- After identifying the basic (or underlying) sound and the derived sound, rule(s) underlying the conditioning environment can be stated. Examples:
  - In postvocalic positions retroflex /ɖ/ becomes [ɽ] in Nepali.
  - In stressed-syllable onset position, /p/ becomes [p^h] in English.