

# Phonology

- (1) Phonology: selection of meaningful sounds in a language.
  - a. It also governs the systematic phonetic variations (articulatory processes) in a language.

(2)

## Definitions:

- a. Features: atomic units that distinguish one phoneme from another.
- b. Segment: a sequence of phonemes, similarly used in phonetics.
- c. Syllable: a segment that composed of a *nucleus*, *onset* and *coda*.

(3) Phonetics vs Phonology:

- a. Phonetics is the study of the process of articulation.
- b. Phonology is the study of meaningful speech sound.
- c. Phonetics studies phones, and phonology studies phonemes.
- d. phones are represented by [i], and phonemes are represented by /i/.

# Minimal Pairs

- (4) Minimal Pairs: a variation between two or more features/qualities of a word which represent a change in *meaning*.
- a. In other words: a single distinction in phonemes between two words.
  - b. examples: 'sip', 'zip', 'tip', 'dip'.

(5) Some phonological examples:

a. beat, boot, bot, /bit, but, bat/.

b. bit, bet, butt, /bit, bɛt, bʌt/.

(6) Near minimal pairs: 'bud' vs 'pub'

a. /bʌd/ vs. /pʌb/

(7) Environment: Context in which sounds occur.

- (8) Aspiration does not create a minimal pair in English.
- a. /k<sup>h</sup>æt/ is the proper pronunciation for cat, whereas  
\*/kæt/ is not.
  - b. Compare to gas, and got, /gæs/, /gat/.
  - c. Aspiration does not occur with voiced stops in English.



- (9) Aspiration creates a minimal pair in Hmong.
- a. khov /k<sup>h</sup>ǎ/, 'sturdy'.
  - b. kov /kǎ/, 'to touch'.
  - c. Voicing is not minimal in Hmong: \*/gǎ/.

- (10) In Thai the following form minimal pairs: /d, t, t<sup>h</sup>/
- a. dtaa /dæ:/, 'eye, grandpa'.
  - b. deek /te:k/, 'child'.
  - c. thuuŋ /t<sup>h</sup>u:ŋ/, 'bag'.

# Complementary distribution

- (11) Complementary distribution: representative of articulatory processes.
- a. Definition: Two separate sounds that never occur in the same place.

(12) Voiceless /ɹ̥/ only occurs after a voiceless stop.

- a. truck, prince, crack [tɹ̥ʌk, pɹ̥ɪns, kɹ̥æk].
- b. drug, broke, ground [dɹ̥ʌg, bɹ̥oʊk, gɹ̥aʊnd].

- (13) Aspiration only occurs on voiceless stops at the beginning of words or syllables.
- a. tug, puck, can [t<sup>h</sup>ʌg, p<sup>h</sup>ʌk, k<sup>h</sup>æŋ].
  - b. dug, buck, gone [dʌg, bʌk, gʌŋ].

(14) The phoneme /t/ is pronounced differently in 5 separate environments:

- a. Non-released: put [p<sup>h</sup>ʌt̚]
- b. Aspirated: top [t<sup>h</sup>ɑp̚]

(15) /t/ continued:

- a. Flap: butter [bʌɾɪ]
- b. Glottal stop: button [bʌʔn]
- c. Elsewhere: twin, tree, putrid [tʷɪn, t̪i, pjʊt̪ɪd]

(16) The phoneme /l/ has 3 different pronunciations.

- a. Dark ɫ: pill [p<sup>h</sup>ɪɫ]
- b. Voiceless: clean [k<sup>h</sup>l<sup>h</sup>ɪn]
- c. Elsewhere: lip, lull [lɪp, lʌɫ]



# Allophonic variation

- (17) Allophones: variants of a phoneme.
- a. Allophonic distribution: set of distinct environments that separate allophones occur.
  - b. Allophones are represented phonetically.

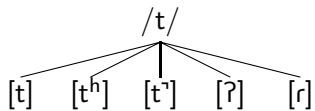
(18) Allophones of /ɹ/:

a.



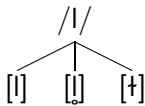
(19) Allophones of /t/:

a.



(20) Allophones of /l/:

a.



- (21) Phonetic and phonemic inventories
- a. Phonemic: phonemes that have contrast in a language, i.e. phonemes that form minimal pairs.
  - b. See page 71, Tables 3.17 and 3.18