LING 201: Introduction to Linguistics

EMU
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D. Cavar

Agenda

- Assignments
- Phonology
  - Intro
- New assignments

Assignment

- 5. Write the speech sound symbol for the last sound in each of the following words. Example: *bleach* /ʧ/, *sigh* /aɪ/

• *cats*	*judge*
• *dogs*	*rough*
• *bushes*	*tongue*
• *sighed*	*garage*
• *bleached*	*climb*

Assignment

- 5. Write the speech sound symbol for the last sound in each of the following words. Example: *bleach* /tʃ/, *sigh* /aɪ/

• *cats* /s/	*judge* /dʒ/
• *dogs* /z/	*rough* /f/
• *bushes* /z/	*tongue* /g/
• *sighed* /d/	*garage* /ʒ/ or /dʒ/
• *bleached* /t/	*climb* /m/

Assignment

- 10. Write the following words using the phonetic symbols discussed in this chapter:
  - *water* *splat*
  - *lit* *tin*
  - *eaten* *beading*
  - *pull* *beating*
  - *craft* *beatin'*

Assignment

- 10. Write the following words using the phonetic symbols discussed in this chapter:
  - *water* /wɔtə/ *splat* /splæt/
  - *lit* /lɪt/ *tin* /tɪn/
  - *eaten* /itn/ *beading* /bidɪŋ/
  - *pull* /pʊl/ *beating* /bitɪŋ/
  - *craft* /kɹæft/ *beatin'* /bɪtn/ (casual speech)

Assignment

- 13. Write the following combinations as contractions (monosyllables, if possible), using the phonetic symbols given in this chapter. Example: *she will* = /ʃɪl/

  - *I will* *I would*
  - *you will* *you would*
  - *he will* *she would*
  - *it will* *it would*
  - *we will* *we would*
  - *they will* *they would*

Assignment

- 13. Write the following combinations as contractions (monosyllables, if possible), using the phonetic symbols given in this chapter. Example: *she will* = /ʃɪl/

  - *I will* /aɪl/ *I would* /aɪd/
  - *you will* /jul/ *you would* /jud/
  - *he will* /hil/ *she would* /ʃid/
  - *it will* /ɪtl/ *it would* /ɪtwəd/
  - *we will* /wil/ *we would* /wid/
  - *they will* /θejl/ *they would* /θejd/

Phonology

- Description of the sounds of a particular language
- General theory of human language, concerned with universal properties of natural language sound systems

Plural Nouns in English

- Transcribe:
  - *cat* - *cats* /kæts/
  - *dog* - *dogs* /dɑgz/
  - *bush* - *bushes* /bʊʃɨz/
- Consider: *map*, *back*, *can*, *tab*, *dish*, *ridge*...
- What are the generalizations?

English Plural

- What is the proper description of the three different sounds of the English plural morpheme?
- What are the conditions on the alternation that will account for where the different phonological forms of the English plural morpheme occur?

English Plural Suffix

- rat - rats [ɹæts]
- leg - legs [lɛgz]
- nose - noses [noʊzɪz]
- rack - racks [ɹæks]
- bush - bushes [bʊʃɪz]
- book - books [bʊks]
- bed - beds [bɛdz]
- change - changes [ʧeɪnʤɪz]

English Plural Suffix

- -s, -z, -ɪz
  - -ɪz / sibilant ___
  - -s / [-voice] non-sibilant ____
  - -z / [+voice] non-sibilant ____
- sibilants: s, z, ʃ, ʒ, ʧ, ʤ
- Why do we have all these different forms?

English Plural Suffix

- Formal notation: Which rule is more plausible?
  - s → z / voiced __
  - z → s / voiceless
- What about nouns ending in a vowel and nasal stops? Do they support our generalization?
- Is it possible that the voicing of vowels may cause voice assimilation?

Natural Classes

- Sets of sounds that
  - behave the same way in phonological processes
    - that is: sounds that function together as input, trigger or output of phonological processes
  - are similar phonetically in certain respects
- Sibilants are a natural class, voiced sounds are a natural class, voiceless sounds are a natural class, etc.

Natural Classes

- How to refer to them?
  - Listing: [b, v, ð, d]
  - Problem?
  - [b, v, ð, d, g, ʤ, ʒ]

Natural Classes

- Solution:
  - Finding a common feature, or combination of features
    - [+voiced]
  - Predictability of behavior of unlisted sounds wrt. an observed regularity
  - Explanation: Why do things happen?
    - -s [-voice] / [-voice] ___

Phonology

- Sounds are composed of smaller features of articulation.
- For English plural suffix:
  - +/- *voiced* is the crucial feature: if the preceding sound is voiced, the plural suffix is realized as voiced

Another example

- /ʌI/ is a predictable variant of /aI/
  - What segments condition the change?
  - What feature(s) uniquely describe the class of
- Conditioning segments? See examples:

Another example

- /ʌɪ/ is a predictable variant of /aɪ/
- [bʌɪt] ‘bite’, [taɪ] ‘tie’, [ɹaɪd] ‘ride’, [faɪl] ‘file’
- [lʌɪf] ‘life’, [fʌɪt] ‘fight’, [baɪ] ‘buy’
- [ɹʌɪs] ‘rice’ [tʌɪp] ‘type’, [naɪnθ] ‘ninth’
- [ɹaɪz] ‘rise’, [bʌɪk] ‘bike’, [ɹʌɪt] ‘write’, [faɪəɻ] ‘fire’, [taɪm] ‘time’

Another example

- Rule?
  - /aɪ/ → [ʌɪ]
  - [ʌɪ] → /aɪ/
- /aɪ/ → [ʌɪ] / ____ voiceless
  - This version is better because you can easily state the environment of such a rule.

Another English Example

- [ɪn]edible
- [ɪn]alienable
- [ɪn]sincere
- [ɪm]possible
- [ɪm]partial
- More: [ɪŋk]əɹɛkt
- [ɪŋ]glorious

English: nasal place assimilation

- /ɪn-/ → [ɪm-] / __ labial
- /ɪn-/ → [ɪŋ-] / __ velar

More Assimilations

- *hit you* [tj] [ʧ(j)]
- *lend you* [dj] [ʤ(j)]
- *miss you* [sj] [ʃ(j)]
- *raise you* [zj] [ʒ(j)]

- What is going on?

Assimilation

- Assimilation of a consonant to the adjacent vowel resulting in the articulation involving the raising of the tongue towards the hard palate: palatalization
- Usually palatalization is triggered by front vowels or palatal glide.
  - s, z, t, d → ʃ, ʒ, ʧ, ʤ / __ j
- alveolar obstruents → [+high] / __ j
- Later: j → ∅ / __ ʃ, ʒ, ʧ, ʤ

Voiced

- Distinctive feature in English
  - minimally distinctive: *siþ* - *ziþ*
  - Minimal pair

Phoneme

- Phone - sound, segment
  - time - dime [taɪm] - [daɪm]
  - team - deem [tim] - [dim]
  - pot - pod [pɑt] - [pɑd]
  - write - ride [ɹaɪt] - [ɹaɪd]
- The sounds that "make a difference", distinguish between two otherwise identical words (MINIMAL PAIR): **phonemes**
- Phonemes may appear in the same environment; their distribution is unpredictable, not rule-governed

Minimal pairs

- [meɪt] [meɪd]
  - Two words which differ in only one sound: [t] versus [d] → [t] and [d] are phonemes
- ‘Near minimal’ pairs
  - [stɹeɪt #] [meɪd #]

Phonemic principle

- Two or more sounds are realizations of different phonemes if:
  - They are in parallel (overlapping) distribution
  - They serve to signal a semantic contrast

Types of /t/ in English

- How the two words differ?
  - *tin*
  - *stint*
- Aspiration
  - a puff of air accompanying the articulation of a sound.
- Aspirated [t^h] appears at the beginning of a stressed syllable.
- Which two other sounds are aspirated in the same position?

- Voiceless stops: p, t, k

Phone - phoneme - allophone

- Phoneme /t/ has ALLOPHONES in English:
  - Aspirated [t^h] and [t]
- The distribution of these allophones is predictable, rule-governed.
- The distribution of these two allophones is COMPLEMENTARY, i.e., [t^h] will appear where [t] doesn't appear, [t] will appear where [t] doesn't appear, [t^h] doesn't appear.

Phonemic principle (2)

- Two or more sounds are realizations of the same phoneme (allophones) if:
  - They are in complementary distribution
  - They are phonetically similar

Phoneme versus allophone

- Are [h] and [ŋ] phonemes or allophones in English?
  - Look for minimal pairs.
  - No minimal pairs.
- Are they in complementary distribution?
  - Yes.
    - [h] - at the beginning of a syllable,
    - [ŋ] - at the end of a syllable.
- Are they allophones?
- No, because they are NOT phonetically similar.

Phonemic versus phonetic transcription

- Phonemic transcription
  - includes only the necessary information about the sounds which contrast in a given language.
- Phonetic transcription
  - includes lots of small detail of pronunciation. e.g. aspiration in English.

Phonetics versus phonology

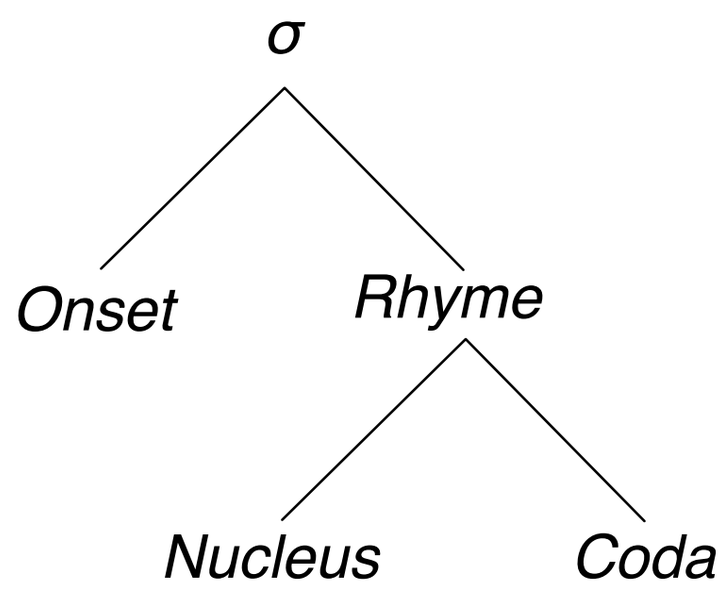
- Allophones are more concrete categories but...
- ...phonemes involve always a certain abstraction, they are a mental entity.
- Phonology
  - the study of the mental system, organization and function of sounds within a language.

Rule Example

- Velarized versus non- velarized /l/ (British)
  - lull [lʌɬ]
  - leaf [li:f]
  - sleep [sli:p]
  - bill [bɪɬ]
  - milk [miɬk]
  - melting [mɛɬtɪŋ]
  - lilly [lɪli]
- Is there a pattern?

Velarized vs. non-velarized /l/

- Syllable structure:



- Velarized, when in Onset, Nucleus, or Coda?

Speech Sounds

- Internal Structure or Distinctive Feature Theory
- Understand the features in section “An SPE-Based System”!

Homework

- Homework assignment III
  - Chapter 4, Exercises 1 and 6 (read the pretext!)
- Reading: chapter 4 complete, Akmajian et. al!