Midterm review

LING 20: Introduction to Linguistic Analysis

UCLA · Winter 2022

Overview

Phonetics:

- Anatomy of the vocal tract
- Articulatory properties of sound classes
- Read and write English in IPA; use IPA chart

Phonology:

- Syllabification
- Phonotactic constraints
- Articulatory features
- Phonemes vs. allophones
- Rule ordering

Overview (cont.)

Morphology:

- Types of morphemes
- Morphological analysis
- Morphological trees
- Right-Hand Head Rule
- Ambiguity

Sound articulation

How are sounds with particular articulatory properties articulated?

- How are voiced and voiceless sounds articulated?
- How are stops articulated?
- How are fricatives articulated?
- How are nasals articulated?
- ...

IPA

[ju wɪl hæv tʰu ɹid ænd ɹa͡jt ɪŋlɪʃ tʃɹænskɹa͡jbd intʰu a͡j pʰi e͡j, dətɛɹmɪn ði aɹtʰɪkʰjulətʰɑɹi pʰɹɑpʰəɹriz ʌv ʌnnó͡wn sa͡wndz ænd fa͡jnd ə sa͡wndz a͡j pʰi e͡j sɪmbəl be͡jst ɑn ðɛɹ aɹtʰɪkʰjulətʰɑɹi pʰɹɑpʰəɹriz]

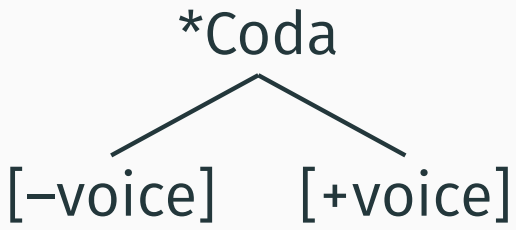
Syllabification

You need to know how the syllabification algorithm works and be able to apply it to strings of sounds.

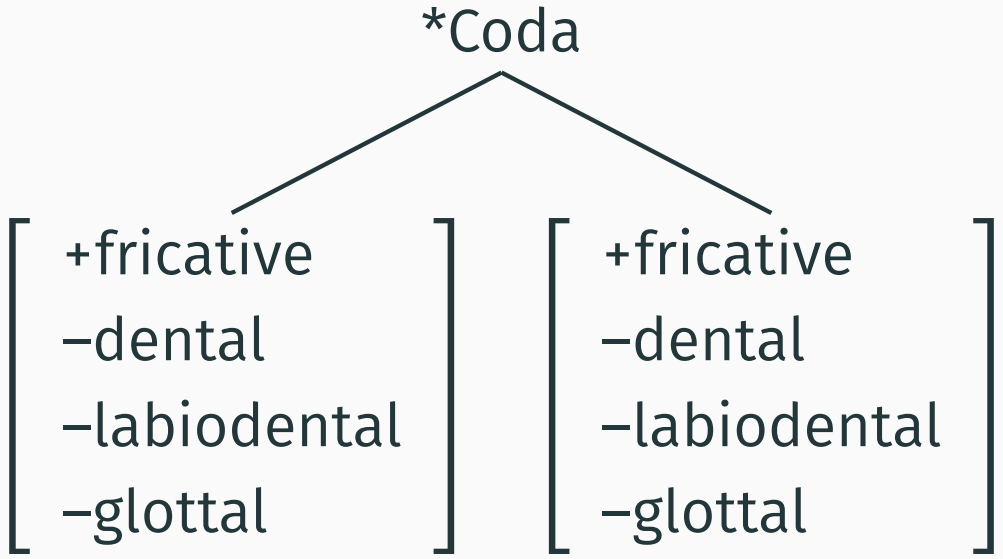
Phonotactic constraints

We have discovered several constraints on English codas:

(1)



(2)



Phonotactic constraints

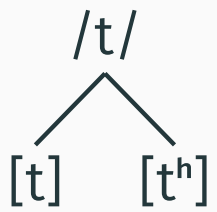
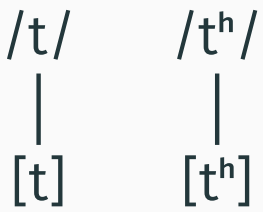
You should be able to formulate phonotactic constraints based on grammatical and ungrammatical words/onsets/codas.

English plurals

How did we analyze the distribution of plural forms of English using a single underlying form that is changed when a phonotactic constraint is violated?

Phonemes and allophones

- What is a phoneme?
- What is an allophone?
- Complementary distribution
- Minimal pair
- Allophones of the same phoneme vs. different phonemes

	Allophones of the same phoneme	**Allophones of different phonemes**
Minimal pair:	no	yes
Sounds predictable:	yes	no
Complementary distribution:	yes	no
One sound produced from the other:	yes	no
Example:	[t] and [tʰ] in English	[t] and [tʰ] in Thai
Structure of example:		

Phonemes and allophones

- Given some dataset, are two sounds allophones of the same phoneme or of different phonemes?
- Analyze a dataset, determine the distribution of sounds, underlying forms, phonotactic constraints, and rules.

Features

How do we describe classes of sounds using articulatory features?

Rule interactions

1. **No interaction**
2. **Feeding:**
   Rule A makes Rule B possible
3. **Bleeding:**
   Rule A makes Rule B impossible

Morphology: Terminology

- Free vs. bound morphemes
- Stems and roots
- Types of affixes:
  1. Suffix
  2. Prefix
  3. Infix
  4. Circumfix
- Reduplication
- Compounding

Right-Hand Head Rule

- If X is the **head** of Y, then the grammatical category (= part of speech) of Y is the same as that of X.
- **Right-Hand Head Rule:**
  In English, the head of a morphologically complex expression is the right-most morpheme.

Morphology: Trees

- Draw morphological trees for complex words.
- Infer category of affixes using the Right-Hand Head Rule.
- Identify morphological ambiguity and draw trees for it.
- Draw tree representation for compounds.

Ambiguity

- What is structural ambiguity?
- How do we represent it?

Morphological analysis

- Given a dataset from a language, identify the morphemes occurring in that dataset.
- Translate English expressions into that language using these morphemes.