Syllables and Phonotactics

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Practice: IPA

(1) Which English words, if any, do the following IPA transcriptions represent?

a. [kni]
b. [waj]
c. [phones]
d. [pasəbl]
e. [ɪntərnæʃənəl fənɛtɪk ælfəbɛt]

Syllables

First, what are syllables?

Syllables are distinct segments (/groups) of speech sounds in a word.

Wait ... Why should we assume the existence of such segments?

Speakers have intuitions about (im)possible groupings (syllabification) in their language. So, syllabification cannot be something speakers learn along with the word; it must follow some **rules**.

(2) *complementary*

a. [kɑm.plə.mɛn.tɹi]
b. *[kɑmp.ləm.ɛnt.ɹi]

(3) *crumbesterif*

a. [kɹʌm.bə.stɛ.ɹɪf]
b. *[k.ɹʌ.mbəst.ɛɹ.ɪf]

The parts of a syllable

- **Nucleus:** The center and only necessary part of a syllable (most often a vowel).
- **Onset:** Any consonant(s) *preceding* the nucleus in a syllable.
- **Coda:** Any consonant(s) *following* the nucleus in a syllable.

Phonotactics

Phonotactics are the rules that determine what possible onsets, nuclei, and codas are in a given language. You can rely on your (classmates') intuitions about English.

- Onsets: Is there a word of English that starts with this sequence?
- Codas: Is there a word of English that ends with this sequence?

English (and most languages) have an onset-over-coda preference. Even if some phone is permitted as a coda, it is syllabified as an onset whenever possible.

(4) *minding* will syllabify as:

a. [majn.dɪŋ] and not
b. *[majnd.ɪŋ]
even though [nd] is a possible code: [majnd]

The syllabification algorithm

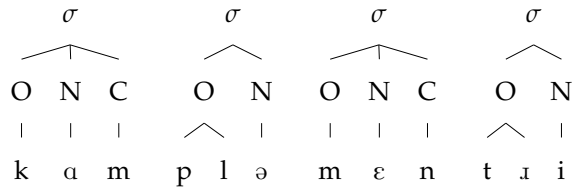
i. Find all the vowels in the word and label them as nuclei (N);

ii. Take all the consonants before the vowel and—**as long as the language's phonotactics allow**—group them under an onset label (O);

iii. Take all the remaining unlabeled consonants after the vowel and—**as long as the language's phonotactics allow**—group them under a coda label (C);

iv. Group together the results of the previous steps, that is O's, N's and C's, into syllables (which we label σ).

(5) Applying the syllabification algorithm to *complementary*



Practice: Transcription and Syllabification

(6) [gɪv ɛən ej pi ej tɹænskɹɪpʃən ɛnd ə sɪlæbɪfɪkejʃən fɔɹ ðə fɒləʊɪŋ wɛɹdz]:

a. phonology
b. border
c. ordering
d. mutton
e. little
f. belittling
g. statistics
h. understanding
i. Pepto Bismol