

# Introduction to English Linguistics

## 3. Phonetics and Phonology III 21 November 2019

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## Phonology

- Phonology: The study of the sound system and sound patterns of language.
- Phoneme: An abstract sound unit (e.g. /k/).
- Phone: A specific phonetic realization of a phoneme (e.g. aspiration: [k<sup>h</sup>]).
- Allophone: One of two or more phonetic realizations of a phoneme (e.g. [k], [c], [k<sup>h</sup>], [c<sup>h</sup>] as allophones of /k/).
- Phonological feature: The smallest unit of phonological analysis. Evidence:
  - Slips of the tongue
  - Phonotactics
  - Phonological rules related to specific features

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## Phonological features

- 3) Phonotactics (cf. later today).
- 4) Phonological rules.

**Input:** Phonemic representation of words (e.g. /ptt/)

↓  
Phonological rule (e.g. aspiration rule)

↓  
**Output:** Phonetic representation (e.g. [p<sup>h</sup>tt])

E.g. /p/, /t/, /k/ pattern together for the aspiration rule. Why? A natural class in terms of features: [-voice, +plosive] are shared.

→ One aspiration rule, instead of three:

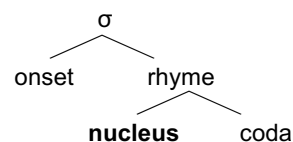
**[-voice, +plosive] → [+aspirated]**

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## The syllable

- Phonological features combine to form phonemes (sound units). These are not strung together randomly, but they form larger units with their own internal structure: syllables.
- Syllable: A phonological unit consisting of one or more sounds.
- Syllable structure:

(1)



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## Syllable structure

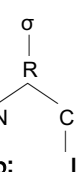
(2) awe



(3) law



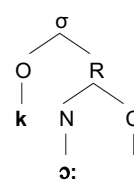
all



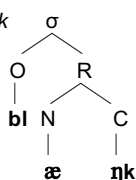
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## Syllable structure

(4) call



blank



- Nucleus: obligatory.
- If no vowel is available: Certain consonants can become nuclear.
  - **Syllabic consonants:** /l/, /m/, /n/, /r/.
  - E.g.: *apple* - /æpl/
  - Two syllables are perceived – only one vowel.
  - /l/ as a nucleus.

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## Phonotactics

- Part of knowledge of language: Knowledge of which sound sequences within syllables are possible and which sound sequences are impossible.
  - /streɪθs/ - /bleɪdʒ/ - \*/vʊg/
- **Phonotactics:** Constraints on sound sequences. (mainly within syllables)
- E.g. consonants clusters in onsets and codas: Combinatorial restrictions.

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## Consonants in onsets

- 1 consonant: All, except /ŋ/.
- 2 consonants: Many permissible combinations (e.g. /bl/ in *blank*) but also many restrictions (e.g. \*/lb/ *lbank*). Cf. p. 108 and exercise 6.
- 3 consonants: Very restricted. Possible: E.g. *spleen, spring, steward, screen, square*.  
Generalization: (1) /s/; (2) one of /p/, /t/, /k/; (3) one of /l/, /r/, /j/, /w/.
  - N.B. /p/, /t/, /k/ again pattern together (cf. also aspiration): A natural class. → Further evidence for the relevance of phonological features.
- 4 consonants: \*

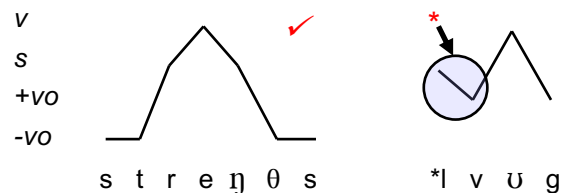
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## The sonority rule

- Not all phonotactic constraints can be reduced to simple rules. But some generalizations: The sonority rule and the homorganic nasal rule.
- **The sonority rule.**  
Sonority: How powerful a sound sounds to a listener.  
A sonority scale: vowels > sonorants > voiced obstruents > voiceless obstruents
- The nucleus is the sonority peak. Sonority decreases (or remains stable) towards both margins of the syllable.

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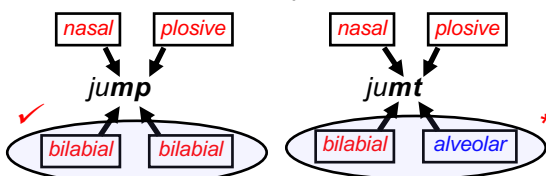
## The sonority rule



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## The homorganic nasal rule

- 'Nasal-plosive' in a coda: The two sounds must have the same place of articulation.



- Cf. also *tent*, *tha[ŋ]k* vs. \**tenp*, \**tha[ŋ]t*

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## The syllable as a phonological unit

- Evidence for treating the syllable as a phonologically relevant unit:
- Phonological rules.
  - Aspiration: *pot* vs. *spot*.  
Aspiration in word-initial position?  
No. Cf. *apart, computer* vs. *inspect, respond*  
→ Aspiration: syllable-initially. (to be continued)
  - Clear and dark l: *look* vs. *pull*.  
Clear l before vowel, dark l after vowel?  
Not sufficient. Cf. *lily, holy; apple, cattle*.  
→ Clear l in onset; dark l in rhyme.

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## The syllable as a phonological unit

- Syllable structure as a literary device.
  - Alliteration:
    - (5) **F**eoll þa to **f**oldan **f**ealohilte swurd:  
*fell then to ground yellow-hilted sword*  
ne mihte **h**e ge**h**ealden **h**earðne mece  
*not could he hold hard blade*
    - Alliteration: identical onset.
  - Rhyme: *chance-dance, blow-flow* etc.
    - Identical nucleus and coda (=rhyme).
  - A combination (ad for Christmas trees):
    - (6) For a tree that's really **f**ine  
Get a **P**age's **P**erfect **P**ine
- Stress placement (cf. next topic).

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## Syllabification

- How do we determine syllable boundaries?
  - E.g. *extreme*: /e.kstri:m/, /ek.stri:m/,  
/eks.tri:m/, /ekst.ri:m/ or /ekstr.i:m/ ?  
*lily*: /lɪ.lɪ/ or /lɪ.lɪ/?
  - Phonotactics: Word-initial constraints as  
syllable-initial constraints.
  - Maximal Onset Principle: As many consonants  
as possible in onset.
- → /ek.stri:m/, /lɪ.lɪ/

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