Phonological Rules of English

Chapter 9
SPAU 3343, UT Dallas
William F. Katz
What is a “phonological rule”? 

- Speech processes naturally understood by speakers and listeners

FORM:

*Structural description → Structural change /__ (in some environment)*
Example

C [+stop, −voice] → [+aspiration]/ #___ [+ syllable, + stress], (where # = boundary)

Read:

“Voiceless stop consonants are aspirated in stressed, syllable-initial position”

(pg. 133)
No, it’s really easy! -->
Phonological Rule 1

Voiceless stops become aspirated when stressed and syllable initial.

- Diacritic: \[ ^h \]
- Examples: \[ p^h\text{ıt} \], \[ \text{en}^h\text{uθ} \]

- Text, Pg. 132
Phonological Rule 2

Voiceless stops become unaspirated after /s/ at beginning of syllable.

- Diacritic: none
- Examples: [strə]
Phonological Rule 3

Approximants become (partially) devoiced after aspirated stops.

- Diacritic: [ ]
- Examples: [tʰʌe], [əpʰʌn],

Text, Pg. 134-5 “Approximant partial devoicing”
Phonological Rule 4

Stops are unreleased before stops.

• Diacritic: [ \xdf ]
• Examples: [\xdfisk \xdf t], [\xdf\xdfm \xdf p]

• Text, Pg. 136
Vowels are proceeded by glottal stops at the start of an utterance

• Diacritic: [ʔ]
• Examples: [ʔaɪ], [ʔots]

• Text, Pg. 137 “Glottal stopping at word beginning”
Phonological Rule 6

Voiceless stops are preceded by glottal stop after a vowel and at the end of a word. Also applies to word-final voiceless affricates.

• Diacritic: [ʔ]
• Examples: [stiʔp], [pʰɪʔtʃ]

• Text, Pg. 137 “Glottal stopping at word end”
Phonological Rule 7

Voiceless alveolar stops become glottal stops before a nasal in the same word.

• Diacritic: [ʔ]
• Examples: [bʔ], [kʰʔ]

• Text, Pg. 138 “Glottal stopping before nasals”
• (note – trochaic meter)
Phonological Rule 8

Alveolar stops (note: /t/ or /d/) become a voiced flap between a stressed vowel and an unstressed vowel.

- Diacritic: [ɾ]
- Examples: [ˈglɑɾtʃ], [ˈbɛɾi], [ˈdæɾi]

- Text, Pg. 139 “Tapping your alveolars” (note – trochaic meter)
Phonological Rule 9

Nasals become syllabic at the end of a word and after an obstruent (fricatives, stops, affricates).

• Diacritic: [ ]
• Examples: ['bekŋ], ['lɛdŋ], ['spæzŋ]

Text, Pg. 139. “Nasals become syllabic” (note – trochaic meter)
Liquids become syllabic at the end of a word and after a consonant.

- Diacritic: [ ]
- Examples: [ɾʃ], [ɾ̚ɾ̚p̚ɾ̚]

Text, Pg. 140 “Liquids become syllabic” (note – trochaic meter)
Phonological Rule 11

Alveolar become dentalized before dentals.

• Diacritic: [ ]
• Examples: ['tʰɛŋθ], [ŋɛθ], [ɛ̂dɔ]

• Text, Pg. 141
Phonological Rule 12

Laterals become velarized after a vowel and before a consonant or at the end of a word.

• Diacritic: [√]
• Examples: ['wɔft], [sɪtʃ]

• Text, Pg. 141 (NOTE – includes final consonant clusters!)
Phonological Rule 13

Vowels become nasalized before nasals.

• Diacritic: [~]
• Examples: [θi̋m], [sũn]

• Text, Pg. 142
More detail on aspiration

<table>
<thead>
<tr>
<th>Table 6-3</th>
<th>Different Ways to Pronounce “Tap”</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pronunciation</strong></td>
<td><strong>IPA</strong></td>
</tr>
<tr>
<td>With no glottal stop and no final release</td>
<td>[tʰæp]</td>
</tr>
<tr>
<td>With no glottal stop and final release</td>
<td>[tʰæpʰ]</td>
</tr>
<tr>
<td>With glottal stop and final release</td>
<td>[tʰæʔpʰ]</td>
</tr>
<tr>
<td>With glottal stop only</td>
<td>[tʰæʔ]</td>
</tr>
</tbody>
</table>

[www.utdallas.edu/~wkatz/PFD/tap_examples.html](http://www.utdallas.edu/~wkatz/PFD/tap_examples.html)