

PHONOLOGY (Continued)**PHONOLOGICAL RULES**

formalized statements on the distribution of allophones

Phonological Representation:
UNPREDICTABLE = *underlying* or *basic*

Phonetic Representation:
PREDICTABLE = *derived by rules*

PHONOLOGICAL DERIVATIONS:

UR (= Underlying Representation)

PR (= Phonetic Representation)

UR #blɪk# 'blick' #plejs# 'place'

Liquid -- #p_lejs#
and Glide
Devoicing

Aspiration -- #p^h_lejs#
PR [blɪk] #p^h_lejs#

THE FORM AND NOTATION OF RULES

$$A \rightarrow B / X \text{ ____ } Y$$

A = input (Underlying Representation)

B = output (Phonetic Representation)

X ____ Y (environment)

The rule should be read as follows:

A becomes B, between X and Y

Notations:

σ or \$ SYLLABLE BOUNDARY

WORD BOUNDARY

C_0 or C_0 ANY NUMBER OF CONSONANTS (zero, or more)

V $\left[\begin{array}{l} -\text{consonantal} \\ +\text{syllabic} \end{array} \right]$

C $\left[\begin{array}{l} +\text{consonantal} \\ -\text{syllabic} \end{array} \right]$

Liquid-Glide Devoicing Rule: STUDY <i>Figure 3.23</i> on p. 102

BRACE NOTATION:

This notation combines two or more rules that have identical parts:

$$\text{a. } V \rightarrow [+long] / \text{---} \left[\begin{array}{c} C \\ -\text{sonorant} \\ +\text{voice} \end{array} \right] \sigma$$

$$\text{b. } V \rightarrow [+long] / \text{---} \#$$

Combined rule:

$$V \rightarrow [+long] / \text{---} \left\{ \begin{array}{c} C \\ \left[\begin{array}{c} -\text{sonorant} \\ +\text{voice} \end{array} \right] \\ \# \end{array} \right\}$$

Vowels become long before a voiced obstruent in the same syllable and word-finally.

FORMALIZING DELETION RULES:

Schwa deletion in English:

[ə] may be deleted in an open syllable (CV) when it is followed by a stressed syllable.

$$[\text{ə}] \rightarrow \emptyset / C \emptyset \text{---} \overset{V}{\sigma} [+stress]$$

For example: *police* [p^h ɪs]

EPENTHESIS AND ALPHA RULES

In English, the glides that follow tense vowels that are [-low] are predictable:

/i/ and /e/ are followed by /j/

/u/ and /o/ are followed by /w/.

NOTE: this prediction is only valid in the variety of English where *boy* is pronounced as [ɔj].

ALPHA NOTATION: If two rules are identical except for the values for the features (+ or -), then the two rules can be replaced by a single rule.

The Greek letter α is a variable that may stand for either feature value.

STUDY <i>Figure 3.25</i> on p. 103

PHONOTACTICS



the arrangement of segments in a sequence; it is part of a speaker's knowledge of the grammar

Examples (phonetic details such as aspiration, devoicing etc. are not relevant here):

[pl] *plot* [tl] -- [kl] *cloud*

[pɪ] *pride* [tɪ] *train* [kɪ] *crown*

[pw] -- [tw] *twin* [kw] *queen*

[spl] *split* [stl] -- [skl] *sclerosis*
etc.

Study <i>Table 3.20</i> on p. 74

The word-initial phonotactic constraints in English may be summarized as follows:

$$\sigma \begin{matrix} [s] \\ \left\{ \begin{matrix} p \\ t \\ k \end{matrix} \right\} \end{matrix} \left\{ \begin{matrix} (l) \\ r \\ (w) \\ j \end{matrix} \right\}$$

ACCIDENTAL GAPS: non-occurring *possible* forms.

Examples: *flurp*, *wibbles* etc.

SYSTEMATIC GAPS: gaps that are results of phonotactic constraints.

Examples: *btlet*, *mcapthv*

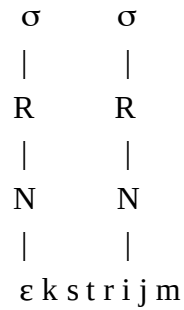
Phonotactic constraints are language-specific:

BANTU:	<i>nto</i>	‘person’
BULGARIAN:	<i>vnuk</i>	‘grandson’
TIBETAN:	<i>ŋ abdzu</i>	‘fifty’

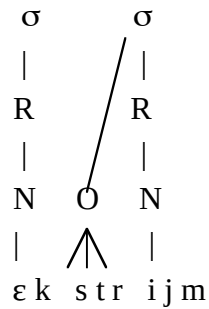
SYLLABLES: a phonological unit composed of one or more segments; it must contain a nucleus.

Setting up syllables: e.g., *extreme*

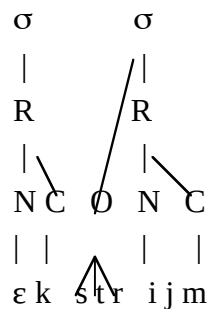
Step (a): link a vowel to N (nucleus); above each vowel place an R (rhyme); above each R, place a σ symbol.



Step (b): find the ONSET (the longest sequence of consonants to the left of the nucleus that conforms to the phonotactic constraints). Link these consonants to an O.

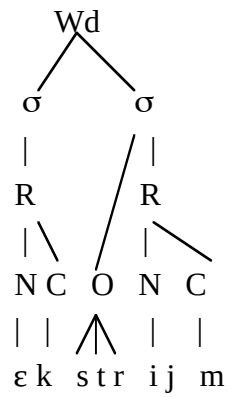


Step (c): Find the CODA (any remaining consonants to the right of the nucleus).



RHYME (R): The NUCLEUS and the CODA of a syllable.

Step (d): Syllables are part of the word (Wd)



STUDY *Figures 3.7, 3.8, 3.9, and 3.10* on pp. 77-78.