Morphophonemic analysis

Morphophonemics:

↓

Analysis and classification of the *phonological* factors which affect the pronunciation of morphemes or, correspondingly, the *morphological* factors which affect the appearance of phonemes.

Allomorph: A predictable variant form of a morpheme (e.g., the English plural morpheme has three allomorphs).

tops
cuffs   [-s]
thoughts

cobs
pins
wings
teas   [-z]
doves
lids
calls

hisses
judges   [-əz]
wishes
crutches

Which allomorphs should be selected as the *underlying form*?

[-s]: The stem ends in a consonant that is

$$\begin{bmatrix} - \text{ coronal} \\ - \text{ strident} \\ - \text{ voice} \end{bmatrix} \quad \text{or} \quad \begin{bmatrix} +\text{coronal} \\ - \text{ strident} \\ - \text{ voice} \end{bmatrix} \quad \text{or} \quad \begin{bmatrix} - \text{ coronal} \\ + \text{ strident} \\ - \text{ voice} \end{bmatrix}$$

never:

$$\begin{bmatrix} + \text{ coronal} \\ + \text{ strident} \end{bmatrix}$$

[-z]:   The stem ends in a consonant that is

$$\begin{bmatrix} -\text{coronal} \\ -\text{strident} \\ + \text{voice} \end{bmatrix} \quad \text{or} \quad \begin{bmatrix} + \text{coronal} \\ - \text{strident} \\ + \text{voice} \end{bmatrix} \quad \text{or} \quad \begin{bmatrix} - \text{coronal} \\ + \text{strident} \\ + \text{voice} \end{bmatrix}$$

never:

$$\begin{bmatrix} + \text{coronal} \\ + \text{strident} \end{bmatrix}$$

or, the stem ends in a vowel.

[-əz]:   The stem ends in a consonant that is

$$\begin{bmatrix} + \text{coronal} \\ + \text{strident} \end{bmatrix}$$

$$\downarrow$$

sibilant!

Underlying representation: /-z/

Wider distribution!

Rules:

1. ə-Epenthesis: Insert a [ə] between two adjacent sibilants in the same word.

$$\emptyset \rightarrow ə / \begin{bmatrix} +\text{coronal} \\ +\text{strident} \end{bmatrix} \underline{\hspace{2cm}} + \begin{matrix} z \\ [+\text{Plural}] \end{matrix}$$
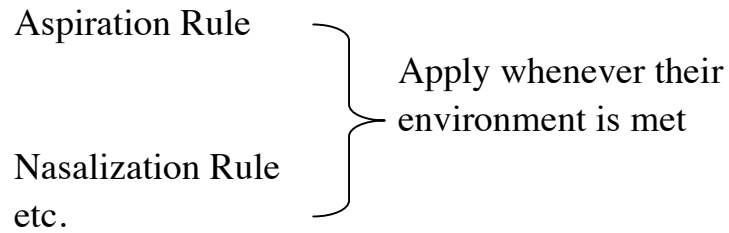
2. Devoicing: A voiced obstruent becomes voiceless after a voiceless obstruent.

$$z \rightarrow [-\text{voice}] / \begin{bmatrix} -\text{sonorant} \\ -\text{voice} \end{bmatrix} + \underline{\hspace{2cm}}$$

Derivations:

UR	/mæp+z/	/bæg+z/	/wɪʃ+z/
1. ə -Epenthesis:	-	-	wɪʃəz
2. Devoicing	taps	-	-
PR	[taps]	[bægz]	[wɪʃəz]

The application of these rules is determined *both* by morphology and phonology.

Aspiration Rule

Nasalization Rule
etc.

Apply whenever their
environment is met

Note: The ə -Epenthesis Rule must be applied *before* the Devoicing Rule – why?

The rules that derive English plural allomorphs apply only to the plural morpheme:

race	[rejs]	*ray* + Pl	[rejz]
rice	[rajs]	*rye* + Pl	[rajz]

[z] is *not* determined by the phonological context only, because in an *identical environment* [s] occurs.