English Phonology

Phonological Processes and Rules

Rule Formalism

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A	→	B	/ ...	C	___	D	# $

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  Input Output Environment

  (Source) (Target)

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- we assume that A, B, C, D are all distinct segments or clusters of distinctive features
- a. either A or B, but never both, may be Ø

  b. either C or D, but never both, may be absent

Notational Devices

- a. → means ‘becomes’ or ‘is changed into’
- b. / indicates the environment where a rule occurs
- c. ___ marks the site of the change in a rule
- d. { } offers a choice of alternative elements in a rule

Boundary Markers

- a. syllable boundary $
- b. morpheme boundary +
- c. word boundary #

Environments

- a. $ ___ D indicates position before D at the start of a syllable
- b. C ___ $ indicates position after C at the end of a syllable
- c. + ___ D indicates position before D at the start of morpheme
- d. C ___ + indicates position after C at the end of morpheme
- e. # ___ D indicates position before D at the start of a word
- f. C ___ # indicates position after C at the end of a word

Abbreviatory Conventions

- a. Ø zero or nothing
- b. C any consonant
- c. V any vowel
- d. ( ) optional segment(s)

Specifying Ranges

- a. C^3 no more than 3 consonants may occur
- b. C_2 at least 2 consonants must occur
- c. C^3_1 from at least 1 to at most 3 consonants may occur

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- In traditional SPE-style generative phonology, such rules are very common
- not the only way to approach a phonological analysis

English Plural Rule

- a. Add /z/ to the singular of regular count nouns to form the plural
- b. Insert [ə] before the plural morpheme when the noun ends in a sibilant
- c. Change the plural to [s] when a noun ends with a voiceless sound
  - C --> [– vd] / [– vd] # ___
  - + cons
  - + cont
  - + cor
  - + ant
  - + vd

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English aspiration

- | + cons | --> [+ s.g.] / # ___
- | - cont |
- | - vd |
- | s.g. |

Rule Ordering

- rules cannot simply apply randomly
- if we change the order of the rules, we may have a different result

a.	INPUT:	/CAD/
1.	A → B / C __ D	CBD
		↓
2.	C → A / __ B	ABD
		↓
3.	D → B / B __	ABB
	OUTPUT:	**[ABB]**

b.	INPUT:	/CAD/
2.	C → A / __ B	—
1.	A → B / C __ D	CBD
		↓
3.	D → B / B __	CBB
	OUTPUT:	**[CBB]**

c.	INPUT:	/CAD/
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- sometimes the order has no effect because the rule fails to apply

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- Take the case of English regular plural formation:
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- b. The plural is [ɪz] when the base ends with [s, z, ʃ, ʒ, ʧ, ʤ]
- c. The plural is [s] when the base ends with [p, t, k, f, θ]

Elsewhere 2

- If we wish to make the simplest and most succinct characterization of the English plural rule, we can describe it as follows:

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- Another way to describe (3) is to simply say `elsewhere', i.e., everywhere else in the environment
- This is the Elsewhere Condition

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- this happened in Old French:

Latin stare > Old Fr. estre > Mod. Fr. être

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- this makes the word fit Korean phonology

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- it may apply to vowels or consonants

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- in order to make them fit English phonology, the first sound is deleted

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- so, it is not the sequence that is problematic, but the sequence in some position

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- again, this involves deletion in order to improve phonological structure

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- when the stress moves, the vowel is reduced

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- since it involves making certain sounds more like others, there may be many types of assimilation

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in + surmountable	n + s	i[n]surmountable
in + balanced	n + b	i[m]balanced
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- the dissimilation actually facilitates pronunciation in this case by making the two similar sounds more different

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- this is *positional neutralization*

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- so, the contrast between voiced and voiceless plosives is neutralized after /s/
- note that you wouldn't want neutralization everywhere, or you could never know what was the underlying sound

Korean Plosive Neutralization

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- but what about at the end of the syllable?

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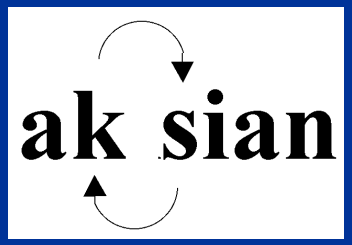
- 

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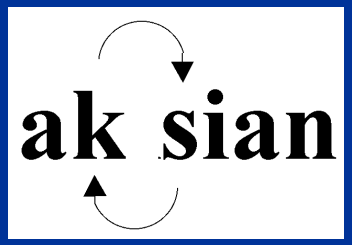
- 

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- the most typical cases of metathesis are those arising from historical change

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- suffixes may have several variants, based on certain vowel characteristics

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- Suffixes may affect harmony also

Turkish

Nom. Sg	Gen. Sg.	Nom. Pl.	Gen. Pl.	
ip	ipin	ipler	iplerin	rope
kız	kızın	kızlar	kızların	Girl
yüz	yüzün	yüzler	yüzlerin	face
pul	pulun	pullar	pulların	stamp
el	elin	eller	ellerin	hand
can	canın	canlar	canların	bell
køy	køyün	køyler	køylerin	village
son	sonun	sonlar	sonların	end

The End