

## 1 Some definitions

**Opacity** (Kiparsky, 1973). A process P of the form  $A \rightarrow B / C \_ D$  is opaque if there are surface structures with either of the following characteristics:

- instances of A in the environment C \_ D
- instances of B derived by P that occur in environments other than C \_ D

**Types of opacity** (Baković, 2010). Given two rules A and B such that A precedes B,

- A feeds B iff A creates additional inputs to B (**feeding**)
- A bleeds B iff A eliminates potential inputs to B (**bleeding**)
- B counterfeeds A iff B creates additional inputs to A (**counterfeeding**)
- B counterbleeds A iff B eliminates potential inputs to A (**counterbleeding**)

## 2 Exercises

For each problem below, figure out the [approximate] rules needed, the correct order of the rules, and what type of opacity the relationship presents. First try it with English plurals (continued from 28 June).

### I. Lomongo verbs

gloss	input	pronunciation
'they dance'	/ba+bina/	[baina]
'you (sg.) hide'	/o+isa/	[wisa]
'you (sg.) dance'	/o+bina/	[oina]

### II. Low German adjectives (dialect 1)

gloss	input	pronunciation
'long (m.)'	/lanɣ/	[lanɣk]
'long (f.)'	/lanɣ+ə/	[lanɣə]

### III. Low German adjectives (dialect 2)

gloss	input	pronunciation
'long (m.)'	/lanɣ/	[lan]
'long (f.)'	/lanɣ+ə/	[lanə]

### IV. Isthmus Nahuatl

gloss	input	pronunciation
'it ends'	/támi/	[tám]
'shelled corn'	/tájo:l/	[tájo:l̥]
'put it in it'	/jikakíli/	[jikakíl]

### V. Turkish 3rd person possessives

— (bare noun)		+/su/ (possessive)	
[ɛlma]	'apple'	[ɛlmasu]	'his/her apple'
[dolma]	'stuffing'	[dolmasu]	'its stuffing'
[baʃ]	'head'	[baʃu]	'his/her head'
[tʃan]	'bell'	[tʃanu]	'his/her bell'
[ajak]	'foot'	[ajaw]	'his/her foot'
[baluk]	'fish'	[baluw]	'his/her fish'

### VI. Polish nouns

gloss	input	pronunciation
'farmer'	/xwɔp/	[xwɔp]
'cat'	/kɔt/	[kɔt]
'vision'	/vzɔk/	[vzɔk]
'salt'	/sɔl/	[sul]
'argument'	/spɔr/	[spur]
'crib'	/ʒwɔb/	[ʒwup]
'front'	/pʃɔd/	[pʃut]
'enemy'	/vrɔg/	[vruk]

### VII. Tunica vowel harmony

gloss	input	pronunciation
'she looks'	/pó+ʔaki/	[póʔɔki]
'she emerges'	/pí+ʔaki/	[píʔeki]
'he dances'	/hípu+ʔuhki/	[hípʔuhki]
'he leads (someone)'	/náʃi+ʔuhki/	[náʃʔuhki]
'she dances'	/hípu+ʔaki/	[hípʔɔki]
'she leads (someone)'	/náʃi+ʔaki/	[náʃʔeki]

### VIII. Turkish 1st person possessives

— (bare noun)		+/m/ (possessive)	
[ɛlma]	'apple'	[ɛlmam]	'my apple'
[dolma]	'stuffing'	[dolmam]	'my stuffing'
[baʃ]	'head'	[baʃum]	'my head'
[tʃan]	'bell'	[tʃanum]	'my bell'
[ajak]	'foot'	[ajawum]	'my foot'
[baluk]	'fish'	[baluwum]	'my fish'