

Rule ordering

1.0 Morphophonological derivations

- MS/cyclic phonological rules can be thought of as a block of rules that applies when a cyclic affix is attached to a base.
- If multiple cyclic affixes are attached within the same word, then the block of MS/cyclic phonological rules will be cycled through each time a cyclic affix is added.
- Non-cyclic affixes do not trigger a cycle through the MS rule block.
- This gives us an overall format for morphophonological derivations:

(1) Format for morphophonological derivations (to be refined)

INPUT =Underlying form of root	/root/
<i>No rules here</i>	
Cyclic affixation	root + /affix /
<i>Attach cyclic affix if there is one</i>	
<i>MS rules apply</i>	
<i>Repeat for each cyclic affix</i>	
Non-cyclic affixation	root-aff + /affix/
<i>Attach non-cyclic affix if there is one</i>	
<i>No rules here</i>	
<i>Repeat for each non-cyclic affix</i>	
ATB rules	root-aff ₁ -aff ₂ ...aff _n
<i>Apply to entire structure</i>	
OUTPUT =surface form of derived word	[phonetic form]

2.0 Strict cycle condition

- MS-rules are strictly ordered so that they can only apply at the point in the morphological derivation where they have been triggered by attachment of a cyclic affix. This is known as the **strict cycle condition**.
 - At other points, even if the phonological context of the rule can be found in the derived string, MS-rules will not apply because they cannot be triggered in environments derived by non-cyclic affixes.

(2) -ous is a cyclic affix (triggers trisyllabic laxing)

omen [owmən] vs. ominous [aminəs]

(3) *-ous* is a cyclic affix (triggers palatalization)

right [rajt] vs. righteous [rajčəs]

/t/ → /č/ / ____ Cyclic Suffix

• If *-ous* is a cyclic affix and is known to trigger trisyllabic laxing, why don't we get trisyllabic laxing in *righteousness*?

- TSL in *righteousness* is prohibited by the strict cycle condition
- The **structural description** for TSL is not created by affixation of the cyclic affix *-ous*. It is only created once we attach the non-cyclic affix *-ness*.
- Terminological note: the structural description of a rule = the environment in which it can apply. For TSL we saw that the structural description involves an underlying tensed vowel followed by 2 syllables.

(4) Derivation for *righteousness*

righteousness: a derivation

INPUT:	/rajt/
Cyclic affixation	+ /əs/
Palatalization rule	rajt-əs rajč-əs
TSL rule	—
Non-cyclic affixation	+ /nəs/
	rajč-əs -nəs
ATB rules	
Canadian Raising	rΛj č-əs-nəs
Stress assignment	rÁj č-əs-nəs
Unstressed V reduction	rÁj č-əs-nəs
OUTPUT	[rÁj čəsənəs]

(Bobaljik 2002)

3.0 Rule underapplication and overapplication

- The implementation of cycles of MS rules triggered by cyclic suffixes, in conjunction with the strict-cycle condition, results in **rule ordering** effects of apparent **rule underapplication** and **overapplication**.
 - **underapplication**: where the structural description for a rule seems to be met, but the rule does not apply
 - **overapplication**: where the structural description for a rule seems to NOT be met, and yet the rule applies.
- In the previous section we saw an example of rule underapplication, where TSL did not apply to *righteousness* even though the structural description did not apply. We saw how this was explained by the structure of the morphophonological derivation.
- We will now see some example of apparent overapplication of TSL.

(5) *-ify* is a cyclic affix (triggers TSL)

- | | | | | |
|----|------------------|-------|---------------------|---------------|
| a. | clear - clarify: | klijr | klɛ .rɪ .faj | NB: [ɪ] = [ɪ] |
| b. | vile - vilify: | vajl | vɪ. ɪɪ. faj | |

- Structural description for TSL is created by attaching *-ify* (which results in underlying stressed V followed by two syllables).

(6) TSL seems to have overapplied (structural description not met)

- | | | | |
|----|---------------|-------------------------------|---------------------------|
| a. | clarification | klɛ .rɪ. fl. kʰɛj. ʃən | * klɪj. rɪ. fl. kʰɛj. ʃən |
| b. | vilification | vɪ. ɪɪ. fl. kʰɛj. ʃən | * vaj. ɪɪ. fl. kʰɛj. ʃən |

- Here we expect TSL to apply to the antepenultimate syllable, and it does.
- However, TSL also applies to the initial syllable, which is unexpected since that V is followed by more than two syllables. This is apparent overapplication.
- The reason for the apparent overapplication becomes clear in the morphophonological derivation.

(7) Derivation of *clarification* and *vilification*

Input	/ klijr /	/ vajl /
Cycle 1 Concatenate /ɪfaj/ TSL	klijr -/ɪfaj/ klɛr -ɪfaj	vajl-/ɪfaj/ vɪl -ɪfaj
Cycle 2 Concatenate /kejʃən/ TSL	klɛrɪ-faj-/kejʃən/ klɛrɪ- fɪ -kejʃən	vɪlɪ-faj- / kejʃən / vɪlɪ- fɪ -kejʃən
ATB Rules (ignore here)		
Output	[klɛrɪfɪkejʃən]	[vɪlɪfɪkejʃən]

(8) Morphological structure of *clarification* and *vilification*

clarification *vilification*
 [[[clear] - ify] -cation] [[[vile] - ify] -cation]

- NB: here the [] brackets represent structure, not phonetic form; keep an eye out for this double usage of [] notation!
- Not all rule ordering effects come from cyclic rule application. We see apparent overapplication/underapplication through interactions involving ATB rules as well.

(9) Flapping and Canadian raising interaction

writer [rʌjDər] , pouter [pʌwDər]
 rider [rajDər] , powder [pæwDər]

- Recall the structural description for Canadian raising :

$$/ ___ C \\ [-voice]$$

- Structural description does not seem to have been met in *writer* and *pouter* yet raising has applied (apparent overapplication).
- This is because raising must apply before flapping, which then alters the environment that made raising possible.

(10)

<i>Derivations</i>		<u><i>writer rider</i></u>	
Input		/rajt/	/rajd/
Non-cyclic affix	/ər/	rajt-ər	rajd-ər
ATB rules			
Canadian Raising		rʌjt-ər	-----
Flapping		rʌjD-ər	rajD-ər
Output		[rʌjDər]	[rajDər]

- If we apply the rules in the wrong order we get the wrong output. Try this

	write	ride	writer	rider
INPUT:	/rajt/	/rajd/	/rajt- ər/	/rajd- ər /
Raising:				
Flapping:				
OUTPUT:				