

# Rule Interactions

This handout is based off data and descriptions found in the following books/articles: Kenstowicz (1994); Hayes (2011); Baković (2011).

## Feeding

- Rule A feeds rule B when:
  - A is ordered before B.
  - A creates novel configurations to which B may apply.
- Example: Basque Biscayan dialect raising (Rule A) and umlaut (Rule B).

UR						/asto-a/	/ate-a/
Rule A:	[+syl]	→	[+high	/ _	+syl]	astu-a	ati-a
Rule B:	[+syl +low]	→	[-low -back]	/	[-low -back]	C <sub>0</sub> —	astu-e ati-e
SR						[astue]	[atie]

- Notice that Rule B can only apply in these derivations if Rule A has already applied. In other words, Rule A creates the environment for Rule B to apply.

## Bleeding

- Rule A feeds rule B when:
  - A is ordered before B.
  - A removes configurations to which B could otherwise have applied.
- Example: Karok truncation (Rule A) and palatalization (Rule B).

UR	/ʔu-iskak/	/ni-uksup/
Rule A: V → ∅ / _V	ʔu-skak	ni-ksup
Rule B: s → ʃ / i(C)_	–	ni-kʃup
SR	[ʔuskak]	[nikʃup]

- Notice that Rule B can not apply to the UR form /ʔu-iskak/ because Rule A deletes the /i/ that would have been the trigger for Rule B to apply. In other words, Rule A destroys the environment for Rule B to apply.

## Counter-Feeding

- Rule A feeds rule B when:
  - A is ordered after B.
  - A creates novel configurations to which B could have applied, if A had been applied before B.
- Example: Lomongo gliding (Rule B) and Deletion (Rule A).

UR		/o-bina/	/o-isa/
Rule B:	$\left[ \begin{smallmatrix} -\text{low} \end{smallmatrix} \right] \rightarrow \left[ \begin{smallmatrix} -\text{syl} \end{smallmatrix} \right] / \_V$	–	w-isa
Rule A:	$\left[ \begin{smallmatrix} +\text{voi} \\ -\text{son} \end{smallmatrix} \right] \rightarrow \emptyset / V\_$	o-ina	–
SR		[oina]	[wisa]

- Notice that Rule A for UR /o-bina/ creates an intermediate form o-ina that fits the description for Rule B's application, but since it is ordered after Rule B it cannot apply. If the ordering of Rule A and Rule B were reversed Rule A would feed Rule B, hence the name counter-feeding. Think of counter-feeding as “too late to feed”. It's also important to remember that counter-feeding is not the same thing as bleeding!

## Counter-Bleeding

- Rule A feeds Rule B when:
  - A is ordered after B.
  - A would have removed configurations to which B applies, had A applied first.
- Example: Polish raising (Rule B) and devoicing (Rule A).

UR		/ɜwob/	/sol/
Rule B:	$\left[ \begin{smallmatrix} +\text{back} \\ -\text{low} \end{smallmatrix} \right] \rightarrow \left[ \begin{smallmatrix} +\text{high} \end{smallmatrix} \right] / \_ \left[ \begin{smallmatrix} +\text{voi} \\ -\text{nas} \end{smallmatrix} \right]$	ɜwub	sul
Rule A:	$\left[ \begin{smallmatrix} -\text{son} \end{smallmatrix} \right] \rightarrow \left[ \begin{smallmatrix} -\text{voi} \end{smallmatrix} \right] / \_ \#$	ɜwup	–
SR		[ɜwup]	[sul]

- Notice that Rule A for UR /ɜwob/ creates an intermediate form where the final sound is [-voice]. If the ordering of Rule A and Rule B were reversed Rule A would block the vowel raising in Rule B from happening, hence the name counter-bleeding. Think of counter-feeding as “too late to bleed”.

## Further Discussion

It's important to remember that the ordering of rules is not universal, but rather is dependent on a specific language or dialect. What is a bleeding order in one dialect may be a counter-bleeding order in a second dialect. For example, it has been reported that there were at one time two dialects of Canadian English that varied in how they ordered two rules: vowel raising and tapping. The tapping rule eliminates the environment where the vowel raising rule can apply. So in Dialect B where the tapping rule comes before the raising rule, the rules are in a bleeding order. In Dialect A where the tapping rule comes after the raising rule, the rules are in a counter-bleeding order.

### Dialect A

UR	/ɪaɪt/	/ɪaɪd/	/ɪaɪt-ə/	/ɪaɪd-ə/
aɪ → ɪɪ / _ [ -voi ]	ɪɪt	—	ɪɪt-ə	—
$\left[ \begin{array}{l} +\text{cor} \\ -\text{son} \\ -\text{cont} \end{array} \right] \rightarrow \text{ɾ} / \hat{\text{V}}\_V$	—	—	ɪɪɾ-ə	ɪɪɾ-ə
SR	[ɪɪt]	[ɪaɪd]	[ɪɪɾə]	[ɪaɪɾə]

### Dialect B

UR	/ɪaɪt/	/ɪaɪd/	/ɪaɪt-ə/	/ɪaɪd-ə/
$\left[ \begin{array}{l} +\text{cor} \\ -\text{son} \\ -\text{cont} \end{array} \right] \rightarrow \text{ɾ} / \hat{\text{V}}\_V$	—	—	ɪaɪɾ-ə	ɪaɪɾ-ə
aɪ → ɪɪ / _ [ -voi ]	ɪɪt	—	—	—
SR	[ɪɪt]	[ɪaɪd]	[ɪaɪɾə]	[ɪaɪɾə]

## References

- Baković, E. (2011). Opacity and ordering. *The handbook of phonological theory*, 2:40–67.
- Hayes, B. (2011). *Introductory phonology*, volume 32. John Wiley & Sons.
- Kenstowicz, M. J. (1994). *Phonology in generative grammar*, volume 7. Blackwell Cambridge, MA.