

Rule Interactions/Ordering Relationships

Reading: Chapter 5 through p. 118

The founding work of **Generative Phonology** is *The Sound Pattern of English*, by Noam Chomsky and Morris Halle, published in (1968) but in circulation for at least five years before that. This is also known as “SPE”

SPE proposed that rules should be **linearly ordered**

- applied one after another like a computer program (in the days when computers operated “serially”, not using parallel processing)
- the same order applies to each representation in a language, to change UR to SR.
- languages (or even dialects) can differ by having the same rules but ordered differently

Votic (Russia) (p. 100-101)

Palatalization: k → č / _ i

Final fronting/raising: e, ə → i / _ #

Order matters: Underlying	/kurkə/	Underlying	/kurkə/
Front/Raise	kurki	Palatalization	not applicable
Palatalization	kurči	Front/Raise	kurki
Surface	[kurči] (correct)	Surface	*[kurki] (wrong!)

Bukusa (Kenya) (p. 106-9)

Post-nasal hardening: voiced → non-continuants / nasal ____ So: l, r → d, β → b, and y → j after nasals
 continuants (stops, affricates)

Post-nasal l deletion: l → ∅ / nasal _ V nasal

underlying forms:	/nlola/	/nlaanda/	underlying forms:	/nlola/	/nlaanda/
hardening:	ndola	ndaanda	l-deletion:	-----	naanda
l deletion:	-----	-----	hardening:	ndola	-----
surface:	[ndola]	*[ndaanda] (wrong!)	surface:	[ndola]	[naanda]

Types of ordering:

Feeding and Counterfeeding

If the application of a rule A would **create** new forms to which rule B could apply (and B could not apply to the UR unless A applied first), then the rules apply in a:

- Feeding order:** if A is ordered before B (so A creates opportunities for B to apply)
- Counterfeeding order:** if B is ordered before A (so B cannot apply to forms that A creates)

Does either Votic or Bukusa fit into feeding or counterfeeding?

Bleeding and Counterbleeding

If application of a rule A would **prevent** a rule B from applying to forms to which B otherwise could have applied, then the rules apply in:

Bleeding order: if A is ordered before B (so A removes potential applications of B)

Counterbleeding order: if B is ordered before A (so B can apply before A removes its environment/target)

Does either Votic or Bukusa fit into bleeding or counterbleeding? And what about Lamba (p. 112), Lithuanian (p. 113-115), Armenian (p. 115-116), Lomongo (116-118)?

Transparency vs. Opacity:

Some orderings allow the 1st rule's environments to be seen on the surface, and some hide it. If a rule destroys the environment that conditioned another rule, we have opacity. If a rule creates the environment that conditions another rule, but does it too late, then we have opacity

When we have opacity, it looks like one of the rules has exceptions on the surface.

Feeding and Bleeding are **transparent**: If A is ordered so that it **feeds** B or **bleeds** B, B's application is transparent because there are no exceptions to B left on the surface.

Counterfeeding and Counterbleeding are **opaque**:

Counterfeeding leaves exceptions on the surface, because A creates environments for B when it's "too late" for B to apply.

Counterbleeding makes the environment for B's application unclear on the surface, because A has destroyed the environment after B applied.

So far, we have been talking about '**extrinsic rule ordering**': rule ordering that the analyst specifies. This is a powerful tool which suggests all rules are ordered with respect to each other, and languages/grammars could differ just by reordering a single pair of rules.

Concerns if we have extrinsically ordered rules:

Learnability

Processing

Reality of stages

Directionality of rules

Extrinsic is opposed to '**intrinsic rule ordering**', where the order follows from the form of the rules themselves, and therefore, should be the same cross-linguistically for the same rules.

Elsewhere condition: If two rules want to apply to the same input, but one has a more specific environment, then we don't need explicit ordering; the more specific rule has precedence. One rule applies and the other doesn't. (from Panini)

Random sequential Rule application: Rules apply one at a time, but not in a fixed order. They apply whenever a string satisfies their structural description in a derivation. Gives you feeding.

A third way: **Non-ordering**

Simultaneous rule application: All rules apply at the same time. Gets you counterbleeding and counterfeeding, but not feeding or bleeding (unless Elsewhere condition).