

Iterative Optionality and Markedness Suppression

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Vata Vowel Harmony

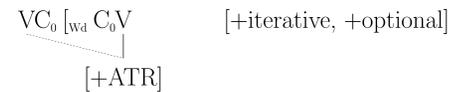
- [+ATR] optionally spreads leftward across word boundaries (Kiparsky 1985):

ó ká zā pī 'he will cook food'
 ó ká zā pī
 ó ká zā pī
 ó ká zā pī

Iterative Optionality: Harmony is optional, and the choice to spread at each point is independent of the choice made at other points (Vaux 2003).

- On the basis of phenomena like iterative optionality, Vaux (2003) against OT and in favor of derivational frameworks.

⇒ Rule-Based Analysis:



- Iterativity and optionality parameters permit a simple analysis.

⇒ **OT:** Common theories of variation (Stochastic OT (Boersma & Hayes 2001), Multiple Grammars (Anttila 2007)) can produce only maximal harmony or no harmony (high-ranking DEP requires spreading, not insertion):

/ó ká zā pī/	*[-ATR]	IDENT
ó ká zā pī	*! **	
ó ká zā pī	*! *	*
ó ká zā pī	*! **	**
ó ká zā pī		***

/ó ká zā pī/	IDENT	*[-ATR]
ó ká zā pī		***
ó ká zā pī	*!	**
ó ká zā pī	*! *	*
ó ká zā pī	*! **	

- The intermediate forms are harmonically bound.

How can OT produce iterative optionality?

Markedness Suppression

- Rules can be optional; why not allow optional constraints?
- What does it mean for a constraint to be optional?
 – A violation mark it would normally assign is not assigned—its violations are “suppressed.”

Markedness Suppression: On a language-particular basis, markedness constraints can be tagged with the operator \odot , and in an evaluation, any number of violation marks assigned by the constraint may be omitted.

- Markedness constraints trigger processes. Suppressing their violations is like refraining from applying a process.
- Depending on which violations are suppressed, any of the possibilities in Vata can be produced:

/ó ká zā pī/	\odot *[-ATR]	IDENT
ó ká zā pī	*! **	
ó ká zā pī	*! *	*
ó ká zā pī	o	**
ó ká zā pī		***!

/ó ká zā pī/	\odot *[-ATR]	IDENT
ó ká zā pī	*! oo	
ó ká zā pī	oo	*
ó ká zā pī	o	**!
ó ká zā pī		**!*

- Suppression is limited to Markedness constraints:
 – Suppression of Faithfulness constraints could lead to massive unfaithfulness. E.g. suppressing DEP would permit large-scale epenthesis.
 – Markedness Suppression simply permits variation toward greater faithfulness—the range of variation is intrinsically bounded.

References

Anttila, Arto (2007) Variation and Optionality. In *The Cambridge Handbook of Phonology*, Paul de Lacy, ed., 519–536. Cambridge: Cambridge University Press.
 Boersma, Paul & Bruce Hayes (2001) Empirical Tests of the Gradual Learning Algorithm. *Linguistic Inquiry* 32: 45–86.
 Dell, François (1973) *Les Règles et les Sons: Introduction à la Phonologie Générative*. Paris: Hermann, translated in 1980 by Catherine Cullen as *Generative Phonology and French Phonology*, New York: Cambridge University Press.
 Kiparsky, Paul (1985) Some Consequences of Lexical Phonology. *Phonology* 2(3): 85–138.
 Riggle, Jason & Colin Wilson (2005) Local Optionality. In *Proceedings of NELS 35*, Leah Bateman & Cherlon Ussery, eds., vol. 2. Amherst, MA: GLSA.
 Vaux, Bert (2003) Why the Phonological Component must be Serial and Rule-Based. Paper presented at NELS 33.

French Schwa Deletion

- /ə/ is optionally deleted where permitted by the resulting syllable structure, etc. (Dell 1973):

envie de te le demander ‘feel like asking you’
 Delete 1 /ə/ { $\begin{cases} \text{ãvidtəldəməde} \\ \text{ãvidtəldəməde} \\ \text{ãvidtəldəməde} \\ \text{ãvidtəldəməde} \end{cases}$ Delete 2 /ə/’s { $\begin{cases} \text{ãvidtəldəməde} \\ \text{ãvidtəldəməde} \\ \text{ãvidtəldəməde} \end{cases}$ No Deletion { ãvidtəldəməde

- * [ə] \gg MAX favors maximal deletion; MAX \gg * [ə] favors no deletion.
- A suppressible * [ə] permits intermediate forms:

/ãvidtəldəməde/	\odot * [ə]	MAX
ãvidtəldəməde	**!	**
ãvidtəldəməde	*oo	*
ãvidtəldəməde	**! **	

- Cf. Riggle & Wilson (2005): each constraint is decomposed into freely rankable position-specific constraints.

/ãvidə ₁ tə ₂ lə ₃ də ₄ mədə/	* [ə]@1	MAX@1	MAX@2	* [ə]@2	MAX@3	* [ə]@3	MAX@4	* [ə]@4
ãvidtəldəməde		*		*	*!			*
ãvidtələdəməde		*		*		*		*
ãvidə ₁ tə ₂ lə ₃ də ₄ mədə	*!			*		*		*

- It is not clear how these constraints are projected. Multiple grammars are still needed to produce all possibilities.
- Markedness Suppression achieves the same result without expanding the set of constraints.

Conclusion: Given the same resources that are available to rule-based theories, OT can produce iterative optionality.

- Markedness Suppression is the OT analog of an optionality parameter. By eliminating violations, Markedness Suppression mimics derivations in which optional rules fail to apply.
- With suppression limited to markedness constraints, we don’t introduce runaway unfaithfulness.

⇒ Iterative optionality is not evidence in favor of derivational phonology.

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