

Raimy Rules in Spokane, Attic Greek and Elsewhere

What phonological operations may morphological rules perform? On what representations do they operate? A comparison between reduplication phenomena in Spokane and Attic Greek sheds light on these questions. This paper, which reports work the author is doing in collaboration with Eric Raimy, argues that the relevant phonological operations involve morphological readjustment rules, and their application is subject to the Elsewhere Condition. These rules manipulate precedence relations among segments (Raimy rules). The full paper will provide a brief introduction to Raimy rules, which are succinctly explained in Fitzpatrick 2005 and Raimy 2000. Such rules account for reduplication phenomena; they specify “anchor points,” which are points where rules insert new precedence relations. The Spokane and Greek evidence suggest that UG allows rules to identify anchor points either in terms of syllable structure (Attic Greek) or in terms of position within a string of segments (Spokane); in the latter case, UG must allow calculations the ability to count up to two.

The Spokane facts are illustrated in (1). If the base begins with a single consonant, the affix /e/ is inserted between a copy of this consonant and the base. If two consonants begin the base (the only other possible kind of base), /e/ appears between the first and second consonant. Bates and Carlson’s (1992) solution rests on the observation that Spokane has the maximal syllabification CVC, with obligatory onsets. The roots in (a, b) are completely syllabified, but the (c, d) roots have stray consonants at their left edges. BC proposed that infixing or reduplication is chosen, depending on which assures proper syllabification with the least machinery.

The analysis of Spokane defended in this paper lacks reference to either syllabification or teleology. It simply states that the affix must follow the first consonant of the root and must precede the second (prevocalic) consonant of the root. By the Elsewhere Condition (EC), if there is no second (prevocalic) consonant in a root, then the affix must precede the first consonant. In the latter case, the affix both follows and precedes the first consonant, which is not a paradox in Raimy’s theory. Formally, the morpheme readjustment rules are as in (2). The arrows define precedence relations. The rule inserts /e/; the first anchor point (“Begin,” the segment immediately to the left of the affix) is after the first consonant. The notation for the “End” point (the segment immediately following the affix) defines it as “between the first two consonants, if there are two consonants at the left; otherwise before the first consonant.” The rule is given in graph notation on the left of (2); the rule has the form in (2a) in case the root begins with two consonants, otherwise it is as in (2b). The EC specifies that (2b) applies only if (2a) cannot. UG provides an algorithm for linearizing these structures.

Unlike Spokane, the analysis of reduplication in Attic Greek¹ (3) cannot avoid reference to syllable structure. This exemplifies “partial onset transfer” (Fleischhacker 2005), where part of an onset is copied under reduplication. In (3a,b) the affix, /e/, appears after a copy of the base-initial consonant. The same morphological process results on the surface as vowel lengthening in (3c); because there is no base-initial consonant in (3c), the affix is plain /e/, subject to assimilation to the adjacent vowel to its right. The affix appears also as plain /e/ in (3d). If we analyze the initial /s/ in (3d) as extrasyllabic,² we can state that the base in (3d), like that in (3c), does not begin with a syllabified consonant. The generalization would then be that the consonant copies just in case it is both first in the root and in the onset. Thus, syllable structure must figure into the specification of this process.

The rules in (4) capture the generalization described above. The discursive account on the right says that the first anchor point for the rule (“Begin,” the segment preceding the affix) is “after the first consonant if it is syllabified, otherwise it is stem initial position.” The End point (the position immediately following the affix) is “stem initial position,” and the effect of the rule is to inset /e/. This can be written in graph notation on the left, where (4a) is the full form of the rule; this expands into (4b) and (4c) which, by the EC, are disjunctively ordered.

I conclude that UG must allow morphological adjustment rules to define anchor points in one of two ways. They may either define them by counting segments from an edge of the root, as in Spokane; to rein in this power, Raimy and I propose that such rules can count only up to two. Alternatively, as in Attic Greek, UG may define anchor points in terms of syllabic affiliation. The Elsewhere Condition governs the application of these rules.

1 Repetitive morphology in Spokane (simplified, based on BC 1992)

	Repetitive	Base	Gloss		Repetitive	Base	Gloss
a	sesil	sil	chop	c	petax	ptax	spit
b	kekul	kul	make	d	qesip	qsip	long ago

2 Raimy |Rules in Spokane

a		Begin:	# → C __ → ...
		End:	# → (C →) __ C → ...
b		Rule:	→ e →

3 Attic Greek reduplication (from Kenstowicz 1994, p. 264ff; font simplified)

	Reduplicated	Base	Gloss		Reduplicated	Base	Gloss
a	le-luka	lu:ko	untie	c	a:ngelka	angel	announce
b	ke-klop ^h a	klep ^h	steal	d	esperma	sper	sow

4 Raimy |Rules in Attic Greek

a		Begin:	# → (C _σ →) __
		End:	# → __
b		Rule:	→ e →
c			

References:

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- Fitzpatrick, J. 2005. *Sources of Multiple Reduplication in Salish and Beyond*, <http://web.mit.edu/jfitzpat/www/>.
- Halle, M., 2005, *Reduplication*, ms. MIT.
- Kenstowicz, M. 1994. *Phonology in Generative Grammar*. Oxford: Blackwell Publications.
- Raimy, E. 2000a. *The Phonology and Morphology of Reduplication*. Mouton de Gruyter.

¹ Halle 2005, using a similar theory of precedence relations, has a different analysis of these Attic Greek phenomena; like the one defended here, it also refers to syllable structure.

² A different analysis of syllable structure is defended in the full paper.