

Gradualness and Fell-Swoop Derivations

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Candidate Chain Theory (OT-CC) integrates Optimality Theory and derivations (McCarthy 2007). Candidates are augmented so that in addition to the output form they may contain a series of intermediate forms, where the output and any intermediate forms together compose a candidate chain. Three well-formedness conditions govern candidate chains: (i) chains are faithfully initiated, (ii) they are gradually divergent, and (iii) they are harmonically improving. The gradualness condition (ii) requires that successive forms in a chain differ minimally from one another. At the core of this condition's definition is a restriction that neighboring forms in a chain differ in violations of no more than one basic faithfulness constraint (e.g. MAX, DEP, IDENT), but certain specifics remain open to refinement. A particular issue, discussed by McCarthy (to appear), is whether a non-initial form in a chain adds exactly one violation of a single basic faithfulness constraint to those of its predecessor—necessitating “Iterative” process effects, or whether multiple violations of single basic faithfulness constraint may be incurred—allowing “Simultaneous” effects.

This paper addresses this topic through a study of “fell-swoop” phenomena, which only show harmonic improvement through the simultaneous incursion of multiple violations of a basic faithfulness constraint. It is argued that the existence of such cases necessitates permitting multiple violations of a single basic faithfulness constraint in an immediate chain successor.

A metaphonic vowel harmony in the Central Veneto dialect forms a case study. Central Veneto's vowels are [i, e, ε, a, o, u]. A post-tonic high vowel causes /e, o/ to raise to [i, u] in a stressed syllable (1a). When stress is antepenultimate and the high trigger vowel is final, a mid vowel in the penult can undergo raising too (1b). Raising does not affect /ε, o, a/, e.g. *gáto/gáti* ‘cat (m sg/pl)’, *vétfo/vétfi* ‘old man (m sg/pl)’. Of /ε, o, a/, only /a/ occurs in an unstressed syllable, and it blocks harmony between a final vowel and the antepenult (1c). Raising in an unstressed mid penult vowel only occurs when a stressed vowel undergoes raising (1d); in other words, the raising harmony is “non-myopic” (cf. Wilson 2003).

(1)	a.	kalséto	kalsíti	‘sock (m sg/pl)’
		móvo	múvi	‘move (1sg/2sg)’
	b.	órdeno	úrdini	‘order (1sg/2sg)’
	c.	la(v)órava	la(v)óravi	‘worked, was working (1sg/2sg impf. ind)’
	d.	ángolo	ángoli	‘angle (m sg/pl)’

Central Veneto's metaphony has been analyzed as driven by a licensing constraint, which requires that the height features of a post-tonic high vowel be expressed through association with a prosodically strong position, i.e. a stressed syllable (Walker 2005). The issue for OT-CC revolves around examples like (1b). Under the Iterative definition of gradualness, the chain <ordeni, órdeni, úrdini> is ill-formed, because its segment <...órdeni, úrdini> incurs two basic faithfulness constraint violations: IDENT(high)@1 and IDENT(high)@4. Another chain <ordeni, órdeni, órdini, úrdini> is ill-formed because its segment <...órdeni, órdini...> is not harmonically improving. We know this is the case, because the penult does not raise in (1d). As a result, no well-formed chain can be generated to produce the raising in (1b). In order to generate this attested pattern, the Simultaneous version of gradualness must be adopted. This accommodates fell-swoop chain segments of the type <...órdeni, úrdini>, where satisfaction of a markedness constraint (here, licensing) incurs two faithfulness violations, one of which cannot alone be driven by harmonic improvement.

The Lena Asturian dialect shows a metaphonic raising pattern in which harmony between a final high vowel and a stressed antepenultimate vowel “skips” an intervening vowel in the penult (Walker 2004). Given the availability of licensing-at-a-distance in Lena, an alternative candidate chain for Central Veneto is considered in which raising in the antepenult precedes raising in penult, thereby satisfying the Iterative version of gradualness: <ordeni, órdeni, úrdeni, úrdini>. However, this scenario is found to be inadequate on empirical and conceptual grounds.

The consequences of adopting the Simultaneous version of gradualness are considered in light of cases examined by McCarthy (2007, to appear) for which the Iterative definition is assumed. A distinction with further implications for gradualness is drawn between fell-swoop candidates like those needed for Central Veneto, which are driven by a single locus of markedness constraint violation, versus candidates relevant for the Aguaruna case that McCarthy (to appear) discusses, which involve multiple loci of violation.