Non-vacuous specific with general gang effects[*]

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This note corrects a mistake in Pater (2009). There I claim that a gang effect between constraints in a specific-to-general relation will always be vacuous, in that it will not produce a pattern different from obedience to the specific constraint alone, and will therefore not produce a difference in typological predictions between OT and HG. Here I provide an example of a non-vacuous gang effect between a pair of these constraints that does yield an OT-HG difference. Besides highlighting an important contrast between the empirical predictions of the frameworks, this case serves to reinforce a broader point: that as in OT, the patterns produced by HG depend on differences between competing candidates, rather than on raw violation profiles. A failure to properly appreciate that point can lead not only to an overestimation of the power of weighted constraint interaction, as emphasized in Pater (2009), but also to an underestimation of it, as I will now show.

A gang effect is defined in Pater (2009) as a situation in which a constraint is satisfied at the cost of n violations of a set of lower valued constraints, but not n+1. Usually, a gang effect between a specific constraint and its general counterpart produces only the same pattern as satisfaction of the specific constraint alone. One example in Pater (2009) comes from the interaction of a general *Voice constraint that penalizes all voiced obstruents, and the more specific *Coda-Voice, which penalizes them only in coda position, with a faithfulness constraint Ident-Voice, which penalizes changes in voicing specification between input and output. The vacuous gang effect is shown in (1); I follow the tableau conventions in Pater (2009).

(1) *A vacuous gang effect*

/ad/	Ident-Voice 1.5	*Coda-Voice 1	*Voice 1	
[ad]		–1	–1	–2
☞ [at]	–1			–1.5

/da/	Ident-Voice 1.5	*Coda-Voice 1	*Voice 1	
☞ [da]			–1	–1
[ta]	–1			–1.5

This is a coda devoicing pattern, which can also obviously be generated from this constraint set without the gang effect, since *Coda-Voice alone will correctly prefer devoicing only in coda position. The gang effect is vacuous because it is impossible to add a third tableau in which the optimal form violates only the specific constraint (*cf.* the non-vacuous gang effect in (2)). Since this impossibility follows from an inherent property of the constraints, it is tempting to generalize from this example to the claim of universal vacuity for specific with general gang effects.

The universal vacuity claim is an overgeneralization because even though the general constraint will

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always assign a violation whenever the specific one does, the competing candidate might itself violate the general constraint, leading to a difference between the candidates in only the violation of the specific constraint. This possibility is realized in the following scenario.

The constraints in the specific-to-general relation are *Stress-[i], which assigns violations to stressed high vowels, and *Stress-[i,e], which assigns violations to stressed high and mid vowels (de Lacy 2004). The competing constraint Stress-Final demands that stress be on the final syllable. The first tableau contains the pair of candidates whose violations on the specific and general pair differ only on the specific *Stress-[i]; the shared violation of general *Stress-[i,e] is canceled out.

(2) *A non-vacuous specific-to-general gang effect*

/teni/	Stress-Final 1.5	*Stress-[i] 1	*Stress-[i,e] 1	
[téni]	–1		–1	–2.5
☞ [tení]		–1	–1	–2

/tane/	Stress-Final 1.5	*Stress-[i] 1	*Stress-[i,e] 1	
[táne]	–1			–1.5
☞ [tané]			–1	–1

/tani/	Stress-Final 1.5	*Stress-[i] 1	*Stress-[i,e] 1	
☞ [táni]	–1			–1.5
[taní]		–1	–1	–2

The gang effect is seen in the final tableau, in which violation of both lower valued constraints is worse than a violation of the higher valued one. This gang effect is non-vacuous in that the overall pattern is different from the one that would be produced if only the specific *Stress-[i] constraint were active in selecting optima, as it would be if its weight/rank were higher than Stress-Final, and the weight/rank of *Stress-[i,e] were lower than Stress-Final. In that case, stress would be uniformly initial when the final syllable contained [i], and the initial syllable contained [a] or [e]. In the pattern illustrated in (2), stress fails to retract to [e] because *Stress-[i] is weighted beneath Stress-Final (see the first tableau). Only when the candidates differ on both *Stress-[i] and *Stress-[i,e], as in the last tableau, will stress leave its preferred final position.

Thus, under the right conditions, constraints in a specific-to-general relation can produce the "sufficient reward" threshold that distinguishes weighted from ranked constraint interaction: a general preference is overridden only to gain a sufficient benefit on another dimension. Here, that benefit is stressing the best type of vowel (low [a]) instead of the worst one (high [i]). A gain from worst to intermediate (high [i] to mid [e]) or intermediate to best (mid [e] to low [a]) is insufficient to compensate for placing stress on the dispreferred non-final position. De Lacy's (2004, 2006) typological survey appears to include no vowel quality-based stress pattern with a sufficient reward threshold. Further research is required to determine whether that gap is accidental, as predicted by HG, or is a reflection of a general restriction on constraint interaction, as predicted by OT.

References

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