The Emergence of the Comparatively Unmarked

Recent accounts of consonant epenthesis in Optimality Theory (OT) either predict the locus of and give structural motivation for epenthesis (Prince & Smolensky 1993, Alber 2001 a. o.), such as the requirement for syllables to start in a consonant or the breaking up of a vowel sequence or they explain the choice of segment, i.e., why languages prefer *ʔ*, *t* or some other consonant (Lombardi 2002) in a given environment (Uffmann in press). However, in some languages the epenthetic consonant has a special status: Because of its restricted distribution it is assumed not to be part of the underlying inventory of the language in question. One such case is *ʔ* in German, which occurs only in simple onsets in word- and foot-initial position (Wiese 2000, Alber 2001), as shown in (1a-d). *ʔ* is not found in other potential environments, such as in onsets of unstressed syllables, complex onsets or codas (1e-g). This sets this segment apart from the other stops in this language (*p,t,k*).

In Selayarese (2) (Lombardi 2002), *ʔ* is epenthesised between two identical vowels, as can be seen from the alternation in (2a), but it is lexical in some forms as can be seen from the occurrence of *ʔ* in (2b). This difference – Selayarese insertion is structure preserving, German insertion is not – has slipped attention so far. This paper fills this gap and provides an OT analysis that accounts for the absence of *ʔ* from the German lexicon, showing that underlying forms can deviate considerably from surface forms in OT, counter to widely accepted claims to the contrary (Prince & Smolensky 1993, Inkelas 1994, Kager 1999, Burzio 2000, Lombardi 2002, Beckman & Ringen 2004).

The absence of *ʔ* from the positions in (1e-g) and from the German lexical inventory is an effect of comparative markedness (McCarthy 2002, 2003). The ranking of Old Markedness above New Markedness with faithfulness sandwiched inbetween results in the exclusion of underlying material from surface forms that nevertheless emerges to satisfy some third markedness constraint. I will show that this is a meta-ranking not only for the analysis of German *ʔ* epenthesis, but for non-structure preserving phonological processes in general.

The Richness of the Base Hypothesis forces the analyst to consider impossible forms, such as those in (1e-g), as inputs and exclude them from surfacing in a complete account of German epenthesis. Ranking a markedness constraint against *ʔ* (i.e., against the consonantal place laryngeal or absence of consonantal place) above faithfulness to place to exclude lexical glottal stops from surfacing is no option, since epenthetic segments are generally regarded as unmarked, which indicates that **ʔ* should rank below the constraints *Labial, *Dorsal and *Coronal (*LDC). These have to rank below faithfulness to place, since the features are contrastive, which results in a ranking paradox. This is avoided with comparative markedness constraints. A constraint against the surface realisation of lexical glottal stops ($_{\text{Old}}$*LAR) outranks faithfulness, banning input /ʔ/ from surfacing (3). The parallel constraint against inserted *ʔ* ($_{\text{New}}$*LAR) is ranked below faithfulness and below all other markedness constraints on place of articulation (*LDC), yielding *ʔ* as the best choice to satisfy ONSET in the surface representation of vowel-initial inputs (4). An alternative analysis with traditional markedness constraints would have to posit otherwise unmotivated positional markedness constraints against glottal stop in various positions (onsets of unstressed syllables and codas) to exclude the illicit forms in (1e-g).

I present a parallel analysis of other non-structure preserving processes, such as the emergence of the dorsal nasal in Italian (which emerges only as the result of place assimilation) and relate the findings to McCarthy's (2002) analysis of Sanskrit diphthong fusion. The paper shows that the insight behind Kiparsky's (1985 and elsewhere) notion of structure preservation is not lost in OT even though the theory has no constraints on the lexicon.

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(1) Glottal stop in German

a.	[(ʔé:.kl)]	Ekel	'disgust'	c.	[(ká.ɔs)]	Chaos	'chaos'
b.	[ʔi.(dé:)]	Idee	'idea'	d.	[ka.(ʔó:.tɪʃ)]	chaotisch	'chaotic'

e. *['ty.ʔə] (onsets of unstressed syllables)
f. *[ʃʔʀal] (complex onsets)
g. *['taʔ.kə] (coda position)

(2) Selayarese

a.	ku-ʔ-uraŋi	ri-uraŋi	ku-inuŋi	ri-ʔ-inuŋi
	'I accompany him'	'you hon. accompany him'	'I drink it'	'you hon. drink it'
b.	taʔ-ataʔ	taʔ-enteŋ	taʔ-inuŋ	
	'to be roofed'	'to be erected'	'to be drunk'	

(3) Banning hypothetical input *ʔ* from surfacing

/ʃʔʀoːʔ/	$_{O}$*LAR	MAXIO	IDENT(PLACE)	$_{N}$*LAR
a. ʃʔʀoːʔ	*!*			
☞ b. ʃtʀoːt			**	
c. ʃʀoː		*!*		

(4) Selecting *ʔ* as the epenthetic consonant

/ekl/	ONSET	$_{O}$*LAR	IDENT(PLACE)	*LAB/DORS/COR	$_{N}$*LAR
a. ˈeːkl	*!				
b. ˈteːkl				*!	
c. ˈpeːkl				*!	
d. ˈkeːkl				*!	
☞ e. ˈʔeːkl					*

References

Alber, Birgit. 2001. Regional variation and edges: Glottal stop epenthesis and dissimilation in standard and southern varieties of German. *Zeitschrift für Sprachwissenschaft* 20. 3-41.

Beckman, Jill N., and Catherine O. Ringen. 2004. Contrast and Redundancy in OT. *WCCFL* 23, 101-114. Somerville, MA: Cascadilla Press.

Burzio, Luigi. 2000. Cycles, Non-Derived-Environment Blocking, and Correspondence. In *Optimality Theory. Phonology, Syntax, and Acquisition*, ed. Joost Dekkers, Frank van der Leeuw and Jeroen van de Weijer, 47-87. Oxford: Oxford University Press.

Inkelas, Sharon. 1994. The Consequences of Optimization for Underspecification. *NELS* 25. 287-302.

Kager, René. 1999. *Optimality Theory*. Cambridge: Cambridge University Press.

Kiparsky, Paul 1985. Some consequences of Lexical Phonology. *Phonology Yearbook* 2. 85-138.

Krämer, Martin. 2005. Optimal underlying representations. *NELS* 35.

Lombardi, Linda. 2002. Coronal Epenthesis and Markedness. *Phonology* 19. 219-251.

McCarthy, John J. 2002. Comparative Markedness. Ms. University of Massachusetts, Amherst.

— 2003. Comparative Markedness. *Theoretical Linguistics* 29. 1-51.

Prince, Alan & Paul Smolensky. 1993. Optimality Theory: Constraint Interaction in Generative Grammar. Ms., Rutgers University and University of Colorado.

Uffmann, Christian. In press. Intrusive [r] and optimal epenthetic consonants. To appear in *Language Sciences.*

Wiese, Richard. 2000. *The Phonology of German*. Oxford: Oxford University Press.