

Introduction: Stratal OT and problems

Bermúdez-Otero 2003, Kiparsky 2000: opacity can be dealt with 3 levels
Kiparsky 2013: there are maximally two degrees of opacity, morphosyntactic
McCarthy 2007: one of Lexical Phonology pillars not transposed to Stratal OT: extrinsic rule ordering inside each stratum, processes in levels must be transparent
Problem: stratum-internal opacity is attested, 2 counterfeeding cases at phrase level
Claim: cyclicity model either inadequate or too restrictive

The Spanish of Galdar, Gran Canaria

Recordings of several speakers from 2014/15, previous reports: Oftedal (1985)

Post-vocalic voicing: word level

Post-vocalic voicing: phrase level

/p/ de[b]artamento ‘apartment’
 /t/ fone[d]ica ‘phonetics’
 /k/ má[g]ina ‘machine’

/p/ yo [b]ienso que ‘I think that’
 /t/ juntos y [d]al ‘together and so on’
 /k/ de [g]olombia ‘of Colombia’

The process is well extended, applies regardless of the word boundary. Similar application:

Spirantisation: word level

Spirantisation: phrase level

/b/ lle[β]o ‘I take’
 /d/ po[ð]er ‘be able to’
 /g/ ma[ɣ]o ‘magician’

/b/ la [β]oca ‘the mouth’
 /d/ una [ð]osis ‘one dose’
 /g/ mi [ɣ]rupo ‘my group’

Domains of application: Spirantisation applies everywhere except after a pause or a homorganic sonorant; voicing applies only after a vowel:

el [t]riple ‘three times’ vs. **el** [β]uque ‘the ship’
super [k]omodo ‘really comfortable’ vs. **super** [ɣ]uay ‘really cool’

Deletion as a blocker

la(s) caracterí(s)tica(s) ‘the features’
die(z) primo(s) ‘ten cousins’
por pensa(r) tontería(s) ‘for thinking about silly things’
se puede acepta(r) que ‘it can be accepted that’

Coda consonants are deleted both inside words and across word boundaries
 After deletion the following stop becomes postvocalic, yet voicing does not apply

Statement of the problem

OPACITY 1. an apparent p t k → b d g → [β] [ð] [ɣ] chain shift
OPACITY 2. deletion blocks voicing: input consonants remain voiceless
 no constraint reranking is possible within a stratum, both cases are doomed

Abstract: I present previously unreported data from Gran Canarian Spanish, collected through my 2014/2015 fieldwork, which illustrate two cases of morphologically unbound underapplication: a synchronic chain shift and a case of counterfeeding deletion. As such, they pose a challenge to OT accounts that do not assume opaque mappings stratum-internally. I argue that the very existence of processes involving non-transparent level-internal mappings calls for a revision, and possibly redesign, of stratal frameworks that do not assume explicit process precedence relations, and for their refocussing on within-stratum interactions.

OT account of the processes

Constraint ranking: *V[-cont, -voice] above Ident(voice)

Derivation of the word *máquina* ‘machine’

/makina/	*V[-cont,-voice]	IDENT(voice)
a. mákina	*!	
☞ b. mágina		*

Constraint ranking: *[+cont][-cont, -nasal] above Ident(cont)

Positional markedness excludes left-hand blockers, spirantisation = F adjacency

Derivation of the word *magó* ‘magician’

/mago/	*[+cont][-cont,-nasal]	IDENT(cont)
a. mago	*!	
☞ b. maɣo		*

The problem: only underlying voiced stops are spirantised on the surface.
 UR voiceless stops do not go as far, yet the grammar is unable to account for that

/makina/	*V[-cont,-v]	*[+cont][-cont,-nasal]	ID(cont)	ID(voice)
a. mákina	*!	*		
☞ b. mágina		*!		*
c. máɣina			*	*

Solution proposed in the literature

Constraint Conjunction

(Kirchner 1997, Moreton & Smolensky 2002, Lubowicz 2002), 1) faithfulness constraints should be used, 2) the same domain should be subject to evaluation by the conjoined constraint

Conjoined: **Ident(voice) & Ident(cont)**, multiple F changes disallowed

/makina/	*V[-cont,-v]	ID(cont)&ID(v)	*[+cont][-cont,-nas]	ID(c)	ID(v)
a. mákina	*!		*		
☞ b. mágina			*		*
c. máɣina		*!		*	*

Alternatives: UR-O mapping constraints, e.g. Ident UR-O(cont)/[-voice] (Jesney 2005, Hauser et al. 2014); contrast preservation (Lubowicz 2003), ternary scales (Gnanadesikan 1997), all external to Stratal OT

Further complications: deletion

Undominated *V[-cont,-voice] constraint makes it impossible to stop voicing

/pensar tonterias/	*V[-cont,-v]	*C]CODA	ID(voice)	MAX(Seg)
a. pensar tonteria		*!		
☞ b. pensa tonteria	*!			*
c. pensa donteria			*	*

PROBLEM: No stratum junction

Deletion is in a counter-feeding relationship with voicing
 but both processes are phrase-level

PROBLEM 2: Non-locality

Local conjunction cannot be invoked because deletion applies to a different segment than voicing, IDENT(voice) & MAX(Seg) too strong

PROBLEM 3: No harmonic mapping

No harmonic mapping can predict waiting with deletion until end of phonology

POSSIBLE SOLUTIONS

Containment / turbidity

Covert structure, difference between the projected and the pronounced (Prince & Smolensky 1993, van Oostendorp 2006, Trommer 2011)

Motivation: Gestural masking

Cross-tier gestural overlap may lead to apparent deletion in perceptual terms (Browman & Goldstein 1990, Bradley 2007)

/pensar tonterias/	*V[-cont,-v]	*C]CODA	ID(v)	MAX(Seg)
a. pensar _{pp} tonteria _[s_{pu}]		*!		*
b. pensa _[r_{pu}] donteria _[s_{pu}]			*!	**
☞ c. pensa _[r_{pu}] tonteria _[s_{pu}]				**

pp = projected and pronounced, pu = projected unpronounced (root node present) note that constraint formulations have to be changed (MAX is violated, no segment can be fully deleted from the input), an unprojected, unpronounced output is not possible

Other approaches: bidirectional grammar, learning mechanisms, superoptimal mappings and extended lexicon optimisation (Smolensky 1996, Kiparsky 2011, Blutner 2000)