How Weighted Scalar Constraints account for Loanword Nativization Patterns

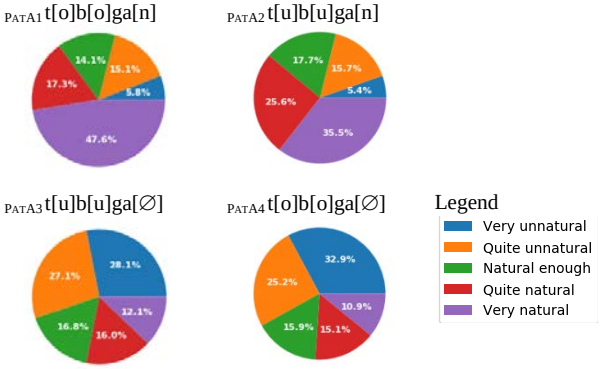
Clàudia Pons-Moll (Universitat de Barcelona)
[Joint project with Francesc Torres-Tamarit, Paris 8, CNRS]

1. Data. Word-final posttonic *-n* deletion (ND) and vowel reduction (VR) are general processes in the native lexicon of Catalan (Mascaró 1976). These two processes, though, tend to underapply in loanwords (*diva*[n], *eur*[o]). Interestingly enough, loans susceptible to undergo both processes show a consistent behavior across young speakers in which non-application of both processes is the most common solution (PATA1: t[o]b[o]ga[n]), followed closely by just non-application of ND (PATA2: t[u]b[u]ga[n]), followed by far by application of both processes (PATA3: t[u]b[u]ga[∅]), and in which non-application of VR and application of ND (PATA4: t[o]b[o]ga[∅]) is unattested. **2. Goals.** The purpose of this talk is to present the results of two surveys supporting quantitatively these patterns and to attempt a formalization of them under the *Weighted Scalar Constraints* version of Harmonic Grammar, following the recent proposals by Hsu & Jesney (2017, 2018). Due to space reasons, here we just outline the formal approach we are pursuing, although the results of the two surveys (a production and a judgment test inquiring the degree of the naturality of the four possible patterns in 16 loanwords with the structure in §1 conducted on 31 Barcelona Catalan speakers aged 18-23 during the period 2017-2018) appear summarized in (1) and (2). **3. Analysis.** As illustrated in (3), we assume a triple lexical stratitification for the Catalan grammar: *a*) the core one (for those speakers with application of VR and ND) (3*i*), *b*) the intermediate one (for those speakers with just application of VR) (3*ii*), and *c*) the peripheral one (for those speakers with underapplication of both VR and ND) (3*iii*). The two M constraints involved are *e,o$_{\sigma UNSTR}$ and *n]$_{WD}$, which receive respectively a stable weight of 5.5 and 2.5 across all three possible strata. Following the proposal in Hsu & Jesney (2017), we assume that faithfulness constraints can be unstable across strata, and be scaled as follows: "Given a basic constraint weight *w*, and a scaling factor *s* corresponding to distance from the core, for any input that is not realized faithfully in the output, assign a weighted violation score of *w* x *s*" (p. 255). This ensures that the F weight values increase from the core stratum (in which *s* = 1: (3*i*)), towards the intermediate stratum (which starts with *s* = 1.8: (3*ii*)), until reaching the peripheral stratum (which starts with *s* = 2.8 and covers the largest interval: (3*iii*); F values acquire, thus, a higher relevance the closer to the peripheral strata. Given the constraint weights, no scaling factor can yield the impossible nativization PATA4*t[o]b[o]ga[∅] (as it can be seen in the strata cross overpoints of (4)). **4. Further issues.** In this talk we are going to discuss the advantages of this modelization with respect to a classic OT approach based on a stratified grammar (Itô & Mester 1995, 1999), and we are going to include a discussion of parallel phenomena (such as the interaction of vowel reduction with stressed mid vowel laxing), for which we have conducted the same surveys and which further support our analysis.

(1) *Results of the production test*

	% of answers
a. PATA1 t[o]b[o]ga[n]	65,2%
b. PATA2 t[u]b[u]ga[n]	25%
c. PATA3 t[u]b[u]ga[∅]	9,8%
d. PATA4 t[o]b[o]ga[∅]	0%

(2) *Results of the judgement test*



(3) *HG analysis with weighted scalar constraints*

i. /tobogan/	*e,o$_{UNSTR}$ w = 5.5	*n]$_{Wb}$ w = 2.5	Ident-V$_{UNSTR}$ w = 2	Max-IO w = 1.5	H	*Scaling factor for F*	*Strata*
a. [toβoɣán]	−1	−1			−8	1	*Core stratum*
b. [tuβuɣán]		−1	−1		−4.5		
☞c. [tuβuɣá∅]			−1	−1	−3.5		
d. [toβoɣá∅]	−1			−1	−7		
ii. /tobogan/	*e,o$_{UNSTR}$ w = 5.5	*n]$_{Wb}$ w = 2.5	Ident-V$_{UNSTR}$ w = 2	Max-IO w = 1.5	H	*Scaling factor for F*	
a. [toβoɣán]	−1	−1			−8	1.8	*Intermediate stratum*
☞ b. [tuβuɣán]		−1	−1		−6.1		
c. [tuβuɣá∅]			−1	−1	−6.3		
d. [toβoɣá∅]	−1			−1	−8.2		
iii. /tobogan/	*e,o$_{UNSTR}$ w = 5.5	*n]$_{Wb}$ w = 2.5	Ident-V$_{UNSTR}$ w = 2	Max-IO w = 1.5	H	*Scaling factor for F*	
☞ a. [toβoɣán]	−1	−1			−8	2.8	*Peripheral stratum*
b. [tuβuɣán]		−1	−1		−8.1		
c. [tuβuɣá∅]			−1	−1	−9.8		
d. [toβoɣá∅]	−1		−1		−11.1		

(4) *Strata cross overpoints*