

Glide phonotactics in varieties of Catalan (and Spanish)*

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OUTLINE

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1 INTRODUCTION

- The palatal glide /j/ and the labiovelar glide /w/ display a vast array of variation in Catalan & in Castilian Spanish, depending on *a*) the syllabic position and *b*) the segmental context in which they occur.
- This variation comprises various processes of strengthening and weakening:

(1) Summary of glide outcomes

Position Variety	Majorcan Eastern Catalan	Central Eastern Catalan	Castilian Spanish
Simplex coda	Preservation re[j], ca[w] 'king', '(s)he falls'	Preservation re[j], ca[w] 'king', '(s)he falls'	Preservation re[j], fa[w]na 'king', 'fauna'
Word-initial simplex onset	Preservation [j]ogurt, [w]eb 'yogurt', 'website'	Preservation [j]ogurt, [w]eb 'yogurt', 'website'	Strengthening [d̪]ogur, [gw]eb 'yogurt', 'website'
Postvocalic simplex onset /j/	Weakening, conditioned deletion / Deletion fe[ɛ]a, fi[Ø]a / fe[Ø]a, fi[Ø]a '(s)he was doing', 'daughter'	Preservation fe[j]a '(s)he was doing'	Strengthening ma[j]o 'May'
Postvocalic simplex onset /w/	Strengthening / Preservation, conditioned deletion ca[v]en / ca[w]en, bo[Ø]et 'they fall', 'ox DIM.'	Preservation ca[w]en 'they fall'	Strengthening a[ɣw]ecar 'to hollow out'

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2 GOALS AND THEORETICAL ASSUMPTIONS

2.1 GOALS

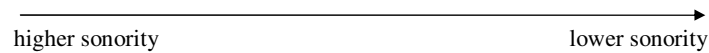
- To outline a typological comparison of the glide phonotactic patterns attested across some Catalan and Spanish varieties. (Main focus = Majorcan Eastern Catalan)
- To suggest a formal account of these patterns, framed within Optimality Theory, and more specifically within the Split Margin approach (Baertsch 2002) to syllable organization.
- To show that, to formalize the whole variation, both *a*) markedness constraints related to intrasyllabic organization (Baerstch 2002) and *b*) markedness constraints referring to the harmony of segments in intervocalic position (Kirchner 1998; Uffmann 2005) are necessary.

2.2 THEORETICAL ASSUMPTIONS

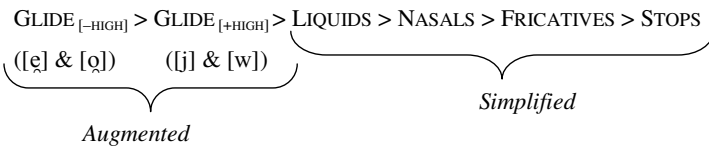
2.2.1 Assumptions about the sonority scale

(2) Assumed sonority scale

GLIDE_[-HIGH] > GLIDE_[+HIGH] > LIQUIDS > NASALS > FRICATIVES > STOPS
 ([ɛ] & [ɔ]) ([j] & [w])



(3) Sonority distinctions (relevant for Majorcan Catalan)



- [ɛ] & [ɔ] = centralized and open (non-high) glides, *i.e.* GLIDE_[-HIGH]
- [j] & [w] = peripheral and closed (high) glides, *i.e.* GLIDE_[+HIGH]

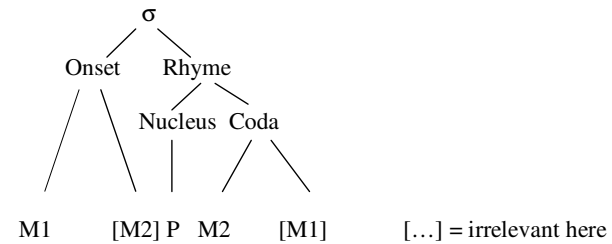
[For the articulatory and the acoustic differences between [j] and [ɛ], see Mascaró & Rafel (1981) and Recasens & Espinosa (2005).]

2.2.2 Formal assumptions

(4) The Split Margin approach to syllable organization

The Split Margin approach refines Prince & Smolensky's hierarchy (1993/2004) by establishing a straightforward correlation between the constituents of the syllable. This hierarchy identifies three types of constituents that behave alike (5) and which are logically targeted by three distinct universal hierarchies (6): M1, which stands for a singleton onset, for the first element of a complex onset and for the second element of a complex coda; M2, which stands for a singleton coda, for the second element of a complex onset and for the first element of a complex coda; and P, standing for the peak.

(5) Associated syllabic constituents (Baertsch 1998, 2002)



(6) Constraint hierarchies affecting the margins (M1 & M2)

- The constraint hierarchy governing the M1 constituent gives preference to low sonority segments (6a):
 - Constraint hierarchy for M1 (*M1/λ)
 - *M1/GLIDE_[-HIGH] >> *M1/GLIDE_[+HIGH] >>
 - *M1/LIQUID >> *M1/NASAL >> *M1/FRICATIVE >> *M1/STOP
- The constraint hierarchy governing the M2 constituent gives preference to high sonority segments (6b):
 - Constraint hierarchy for M2 (*M2/λ)
 - *M2/ STOP >> *M2/ FRICATIVE >> *M2/NASAL >> *M2/LIQUID >>
 - *M2/ GLIDE_[+HIGH] >> *M2/ GLIDE_[-HIGH]

(7) *Segmental preferences in intervocalic position*

In intervocalic position (and also in postvocalic and preglide position), elements of high sonority are preferred, because this simplifies the articulatory gesture (Kirchner 1998; Uffmann 2005). (→ Involved in processes of lenition & in the quality of the epenthetic segments.) → Smooth VCV transitions.

(8) *Constraint hierarchy for M1 in intervocalic position* (*Vλ_{M1}V)

- The constraint hierarchy governing the VM1V constituent gives preference to high sonority segments as well (8a):

- a. Constraint hierarchy for intervocalic M1 (*Vλ_{M1}V)
- *VSTOP_{M1}V >> *VFRICATIVE_{M1}V >> *VNASAL_{M1}V >> *VLIQUID_{M1}V >>
 - *VGLIDE_{[+HIGH],M1}V >> *VGLIDE_{[-HIGH],M1}V

☞ Note, how...

- *M1/GLIDE_[-HIGH] >> *M1/GLIDE_[+HIGH] generally favors [j] & [w]
- *VGLIDE_{[+HIGH],M1}V >> *VGLIDE_{[-HIGH],M1}V locally favors [ɛ] & [ɔ]

↓
In intervocalic position...

Crucial interaction between both constraint hierarchies

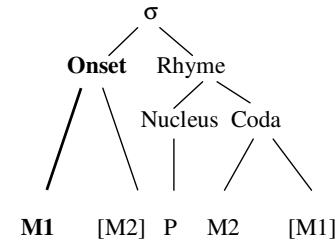
3 MAJORCAN CATALAN: A MULTIPLE-WAY ADJUSTING VARIETY

3.1 Data

[Data from Bibiloni (1983), Dols (2000) and personal inquiries]

3.1.1 The palatal glide

→ SIMPLEX ONSET POSITION



(9) Word-initial position (mostly loanwords) → preservation

<i>Most varieties</i>		<i>Some other varieties</i>	
[j]anqui	‘Yankee’	[ʒ]ogurt	‘yogurt’
[j]ate	‘yacht’	[ʒ]ot	‘yacht’
[j]ode	‘iodine’		
[j]ogurt	‘yogurt’		

(10) Intervocalic position → weakening / deletion
(in contact with non-front vowels)

<i>a. Varieties A</i>	<i>b. Varieties B</i>		
bada[ɛ]a	bada[Ø]a	‘(s)he yawns’	(cf. <i>bada</i> [j], ‘I yawn’)
embu[ɛ]a	embu[Ø]a	‘(s)he mixes up’	(cf. <i>embu</i> [j], ‘I mix up’)
ta[ɛ]a	ta[Ø]a	‘(s)he cuts’	(cf. <i>ta</i> [j], ‘I cut’)
du[ɛ]a	du[Ø]a	‘(s)he was bringing’	(cf. <i>du</i> [j]s, ‘you bring’)
fe[ɛ]a	fe[Ø]a	‘(s)he was doing’	(cf. <i>fe</i> [j]s, ‘you do’)

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- (11) Intervocalic position → deletion
(in contact with the front vowel *i*)

All varieties (A, B)

fi[Ø]a	‘daughter’	(cf. <i>fi</i> [j], but also <i>fi</i> [Ø], ‘son’)
coni[Ø]era	‘burrow’	(cf. <i>coni</i> [j], but also <i>coni</i> [Ø], ‘rabbit’)
ve[Ø]íssim	‘old MASC. SUPERL.’	(cf. <i>ve</i> [j], ‘old MASC.’)
embu[Ø]i	‘he mixes up SUBJ.’	(cf. <i>embu</i> [j], ‘I mix up’)

- (12) Intervocalic position → deletion (and weakening)
(in contact with the front vowel *e*)

All varieties (A, B)

Varieties A

ve[Ø]a	(<i>vella</i> , ‘old FEM.’)	ve[ɛ]ura	‘old age’
ve[Ø]et	(<i>vellet</i> , ‘old man DIM.’)	agu[ɛ]er	‘thread’
ve[Ø]ona	(<i>vellona</i> , ‘old woman DIM.’)		

- (13) Intervocalic position (clitic sequences) → weakening / deletion (as in (10))

Varieties A

Varieties B

No hi [ɛ] ha ningú	No hi [Ø] ha ningú	‘There is nobody’
No hi [ɛ] he anat, a París (≠ <i>No he anat a París</i>)	No hi [Ø] he anat, a París (= <i>No he anat a París</i>)	‘I didn’t go, to París’ ‘I didn’t go to París’
hi [əɛ] ha	hi [əØ] ha	‘there is’
hi [əɛ] hagi	hi [əØ] hagi	‘there is SUBJ.’

(Cf. *hi* [əj] *va* ‘he goes there’; *hi* [əj] *veu*, ‘he is able to see’)

→ Productivity of the processes of weakening and deletion

- (14) Morphophonemic alternations (inflection & derivation)

du[ɛ]a ~ du[Ø]a	‘I was bringing’	vs.	du[j]s, du[j]m	‘you, we bring’
ta[ɛ]et ~ ta[Ø]et	‘cut DIM.’	vs.	ta[j], ta[j]s	‘cut, cuts’

- (15) Phrasal phonology

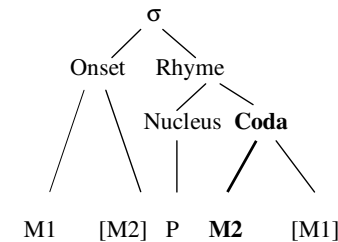
ma[ɛ] he dit	vs.	ma[j]
‘I have never said’		‘never’

- (16) Loanwords and L2 phonology

Juga a la Pla[ɛ] ara	vs.	Pla[j]
‘Play with the Play now’		‘Play (Station)’

Estàs *on* [faɛr]
‘You are on fire’

→ CODA POSITION



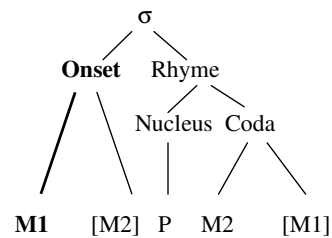
- (17) Word-final and word-internal position

All varieties (A, B)

ma[j]	‘never’	esca[j]re	‘corner’
re[j]	‘king’	ca[j]re	‘aspect’

3.1.2 The labiovelar glide

→ ONSET POSITION



(18) Word-initial position (mostly loanwords) → preservation

All varieties (I, II)

[w]ep!	‘hey!’
[w]eb	‘website’
[w]isky	‘whisky’
[w]atsapp	‘whatsapp’
[w]ifi	‘Wi-Fi’

(19) Intervocalic position → preservation / “strengthening”

<i>Varieties I</i>	<i>Varieties II</i>		
ca[w]en	ca[v]en	‘they fall’	(cf. <i>ca</i> [w], ‘(s)he falls’)
di[w]en	di[v]en	‘they say’	(cf. <i>di</i> [w], ‘(s)he says’)
cre[w]eta	cre[v]eta	‘cross DIM.’	(cf. <i>cre</i> [w], ‘cross’)
pe[w]et	pe[v]et	‘foot DIM.’	(cf. <i>pe</i> [w], ‘foot’)

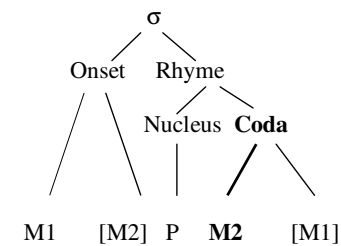
(20) Intervocalic position (across words) → preservation / “strengthening”

<i>Varieties I</i>	<i>Varieties II</i>		
es me[w] amic	es me[v] amic	‘my friend’	(cf. <i>es me</i> [w], ‘my’)
bla[w] i blanc	bla[v] i blanc	‘blue and white’	(cf. <i>bla</i> [w], ‘blue’)

(21) Intervocalic position → deletion / “strengthening”
(in contact with a labial mid back vowel)

<i>Varieties I</i>	<i>Varieties II</i>		
bo[Ø]et	bo[v]et	‘ox DIM.’	(cf. <i>bo</i> [w], ‘ox’)
po[Ø]al	po[v]al	‘bucket’	(cf. <i>po</i> [w], ‘well’)
es me[Ø] homo	es me[v] homo	‘my husband’	(cf. <i>es me</i> [w], ‘my’)
co[Ø] un poc	co[v] un poc	‘(s)he cooks a little’	(cf. <i>co</i> [w], ‘(s)he cooks’)
po[Ø] immens	po[v] immens	‘huge well’	(cf. <i>po</i> [w], ‘well’)

→ CODA POSITION



(22) Word-final and word-internal position → preservation

All varieties (I, II)

bo[w]	‘ox’	co[w]re	‘to cook’
po[w]	‘well’	mo[w]re	‘to move’
me[w]	‘my’	pa[w]ta	‘pattern’

→ Productivity of the process of strengthening

Dubious: see (31).

3.2 Descriptive generalizations and analysis

Intervocalic position (V_{M1}V)

3.2.1 Varieties with weakening of the palatal glide (see 10a: *bada*[e]a) and conditioned (apparent) deletion (see 11: *fi*[Ø]a; see 12: *ve*[Ø]a)

Descriptive generalization: A process of weakening applies intervocalically, unless the palatal glide and the adjacent vowel are similar enough (i.e. share the feature [palatal]), in which case a process of fusion (“apparent deletion”) is triggered.

(23) Weakening in contact with a non-front (non-palatal) vowel

f/i ₁ j ₂ +ə/	MAX-[PAL]	*VGLIDE _{[+HI],M1} V	ID-[PAL]	ID-[-cons]	ONSET	*M1/GLIDE _[-HI]	*VGLIDE _{[-HI],M1} V	*M1/GLIDE _[+HI]
a. [ə ₁ .j ₂ ə]		*!						*
b. [ə ₁ .e ₂ ə]						*	*	
c. [ə ₁ .ə]	*!				*			
d. [ə ₁ .2.ə]			*!		*			

A. Partial rankings and ranking arguments:

- A1. *VGLIDE_{[+HIGH],M1}V >> *M1/GLIDE_[-HIGH], *VGLIDE_{[-HIGH],M1}V
→ weakening over preservation (23b vs. 23a)
- A2. MAX-[PAL] >> *M1/GLIDE_[-HIGH], *VGLIDE_{[-HIGH],M1}V
→ weakening over deletion (23b vs. 23c)
- A3. ID-[PAL] >> *M1/GLIDE_[-HIGH], *VGLIDE_{[-HIGH],M1}V
→ weakening over fusion (23b vs. 23d)
- A4. ID-[PAL]
→ fusion only possible when both adjacent segments share the feature [palatal] (see the following tableau)

(24) Fusion (apparent deletion) in contact with a front (palatal) vowel

f/i ₁ j ₂ +ə/	MAX-[PAL]	*VGLIDE _{[+HI],M1} V	ID-[PAL]	ID-[-cons]	ONSET	*M1/GLIDE _[-HI]	*VGLIDE _{[-HI],M1} V	*M1/GLIDE _[+HI]
a. [i ₁ .j ₂ ə]		*!						*
b. [i ₁ .e ₂ ə]						*	*!	
c. [i ₁ .ə]	*!				*			
d. [i ₁ .2.ə]					*			

B. Partial rankings and ranking arguments:

- B1. MAX-[PAL], *VGLIDE_{[+HI],M1}V, ID-[PAL]
→ tie between weakening and fusion (24b vs. 24d)
- B2. ONSET, *M1/GLIDE_[-HIGH], *VGLIDE_{[-HIGH],M1}V
(emergence of *M1/GLIDE_[-HIGH], *VGLIDE_{[-HIGH],M1}V)
→ fusion over weakening (24d vs. 24b)

3.2.2 Varieties with generalized deletion (see 10b: *bada*[Ø]a; 11: *fi*[Ø]a, 12: *ve*[Ø]a).

Descriptive generalization: A process of deletion applies intervocalically, unless the palatal glide and the adjacent vowel are similar enough (i.e. share the feature [palatal]), in which case a process of fusion is triggered. (The last process is identical to the one found in varieties with weakening / fusion.)

(25) Deletion in contact with a non-front (non-palatal) vowel

$f/\partial_1j_2+\partial/$	*VGLIDE _{[+HI],MI} V	ID-[PAL]	ID-[-cons]	ONSET	*M1/GLIDE _[-HI]	*VGLIDE _{[-HI],MI} V	MAX-[PAL]	*M1/GLIDE _[+HI]
a. $[\partial_1.j_2\partial]$	*!							*
b. $[\partial_1.\xi_2\partial]$					*	*!		
☞ c. $[\partial_1.\partial]$				*			*	
d. $[\partial_1.2.\partial]$		*!		*				

C. Partial ranking and ranking argument:

C1. Demotion of MAX-[PAL]:

MAX-[PAL] >> *M1/GLIDE_[-HIGH], *VGLIDE_{[-HIGH],MI} V >> MAX-[PAL]

→ deletion over weakening (25c vs. 25b)

C2. ID-[PAL] prevents from fusion

(26) Fusion in contact with a front (palatal) vowel

$f/i_1j_2+\partial/$	*VGLIDE _{[+HI],MI} V	ID-[PAL]	ID-[-cons]	ONSET	*M1/GLIDE _[-HI]	*VGLIDE _{[-HI],MI} V	MAX-[PAL]	*M1/GLIDE _[+HI]
a. $[i_1.j_2\partial]$	*!							*
b. $[i_1.\xi_2\partial]$					*	*!		
c. $[i_1.\partial]$				*			*!	
☞ d. $[i_1.2.\partial]$				*				

D. Partial ranking and ranking argument:

D1. Emergence of MAX-[PAL]

→ fusion over deletion (26d vs. 26c)

Summary:

- In contact with a non-front vowel → different rankings / different outcomes (weakening vs. deletion)
- In contact with a front-vowel → different rankings / identical outcomes (fusion = fusion)

3.2.3 Varieties with preservation of the labiovelar glide (19a: *ca[w]en*; 20a: *es me[w]amic*) and conditioned deletion (21a: *bo[Ø]et*; *es me[Ø] homo*).

Descriptive generalization: There is preservation intervocalically, unless the labiovelar glide and the adjacent vowel are similar enough (i.e. share the feature [labial]), in which case a process of fusion is triggered.

☞ Reminder! Different fates for the palatal glide intervocalically, relevant here:

→ Varieties with weakening of /j/ and preservation of /w/: Same ranking as in (23), for the weakening of the palatal glide, plus *[q] and MAX-[PAL] → MAX-[LAB]; ID-[PAL] → ID-[LAB].

→ Varieties with deletion of /j/ and preservation of /w/: Same ranking as in (25), for the deletion of the palatal glide, plus *[q] and MAX-[PAL] → MAX-[LAB]; ID-[PAL] → ID-[LAB] BUT NO demotion of MAX-[LAB].

☞ Note how this last pattern (with deletion of /j/ and preservation of /w/) makes it necessary to split MAX(F) into MAX-[PAL] and MAX-[LAB] (i.e. they need to be freely rankable in order to explain the opposite behaviors).

(27) Preservation (in contact with a non-labial mid back vowel)

	*[ɔ]	MAX-[LAB]	*VGLIDE _{[+HI], M1} V	ID-[LAB]	ID-[-cons]	ONSET	*M1/GLIDE _[-HI]	*VGLIDE _{[-HI], M1} V	*M1/GLIDE _[+HI]
☞ a. [ə ₁ .w ₂ ə]			*						*
b. [ə ₁ .ɔ ₂ ə]	*						*	*!	
c. [ə ₁ .ə]		*				*!			
d. [ə _{1,2} .ə]				*		*!			

E. Partial rankings and ranking arguments:

E1. *[ɔ], MAX-[LAB], *VGLIDE_{[+HIGH], M1} V, ID-[LAB]

→ tie between preservation (27a), weakening (27b), deletion (27c) and fusion (27d)

E2. ID-[LAB] blocks fusion

E3. Emergence of ONSET, *M1/GLIDE_[-HIGH] *M1/GLIDE_[+HIGH]

→ preservation (27a) over other strategies (27b, c, d)

E4. ONSET is decisive for the first time.

(28) Fusion (“apparent deletion”) in contact with a labial mid back vowel

	*[ɔ]	MAX-[LAB]	*VGLIDE _{[+HI], M1} V	ID-[LAB]	ID-[-cons]	ONSET	*M1/GLIDE _[-HI]	*VGLIDE _{[-HI], M1} V	*M1/GLIDE _[+HI]
a. [o ₁ .w ₂ ə]			*!						*
b. [o ₁ .ɔ ₂ ə]	*!						*	*	
c. [o ₁ .ə]		*!				*			
☞ d. [o _{1,2} .ə]						*			

F. Partial rankings and ranking arguments:

F1. *VGLIDE_{[+HI], M1} V >> ONSET

→ fusion (28d) over preservation (28a)

F2. ID-[LAB] satisfied by the candidate with fusion

3.2.4 Varieties with “apparent strengthening” of the labiovelar glide intervocalically, without cases of deletion (19b: *ca[v]en*; 20a: *es me[v] amic*; 21a: *bo[v]et*; *es me[v] homo*).

(29) ☞ Ranking paradox:

→ Ranking for the weakening of the palatal glide:

*VGLIDE_{[+HIGH], M1} V >> *M1/GLIDE_[-HIGH], *VGLIDE_{[-HIGH], M1} V

→ Universal ranking (fixed):

*VFRICATIVE_{M1} V >> *VGLIDE_{[+HIGH], M1} V

→ By transitivity:

*VFRICATIVE_{M1} V >> *VGLIDE_{[+HI], M1} V >> *M1/GLIDE_[-HI], *VGLIDE_{[-HI], M1} V

(Weakening is always better than strengthening)

→ Considering *[ɔ]... and given *VFRICATIVE_{M1} V >> *VGLIDE_{[+HIGH], M1} V

(Preservation is always better than strengthening, and weakening)

(30) Illustration: *universal ranking*

	*VFRICATIVE _{M1} V	*[ɔ]	*VGLIDE _{[+HI], M1} V	ID-[-cons]	ONSET	*M1/GLIDE _[-HI]	*VGLIDE _{[-HI], M1} V	*M1/GLIDE _[+HI]
p/ə ₁ w ₂ +ə/t								
*☞ a. [ə ₁ .w ₂ ə]			*					*
b. [ə ₁ .ɔ ₂ ə]		*				*	*!	
☹ c. [ə ₁ .v ₂ ə]	*!			*				

(Simplified tableau)

(31) *Some empirical observations:*

- The strengthening of the labiovelar glide in intervocalic position is a dubiously productive process (at least synchronically), since loans or learned words such as *Hawaii*, *Power* or *PowerPoint* are usually realized with [w]. (Also across words: *Glasgow ha guanyat* ‘Glasgow has won’.)
- This strengthening is not common in word-initial position, where it would be more justifiable (see 18) because the affected segment is not preceded by a vowel.
- There is an intricate diachronic evolution of words containing the alternation [v] ~ [w]:
 - *first stage*: intervocalic [v] (*be[v]en* ‘they drink’);
 - *second stage*: intervocalic [w] (*be[w]en*, as in other Catalan varieties), probably by analogy to the form *be[w]* ‘(s)he drinks’;
 - *third stage*: intervocalic [v] (*be[v]en*), maybe because of a previous stage with *M1/GLIDE_[+HI] >> *VFRIC_{M1}V (cf. quality of the epenthetic consonants: *ra[v]ó* ‘reason’; *lle[v]ó* ‘lion’, etc.)

(32) *Subsequent assumptions about the UR:*

- We assume that the underlying representation of forms showing the alternation [w] ~ [v] (as *di[w]* ~ *di[v]en*) displays two allomorphs, one with a final voiced labiodental fricative (/div/) and the other with a final labiovelar glide (/diw/).
- All instances of [v] in intervocalic position (alternating with [w] in word-final position) can be interpreted allomorphically: *cantau* [w] ‘sing 2P PL.’, *cantau* [v] *això* ‘sing 2P PL. this’, *cantau-ho* [v] ‘sing 2P PL. it’ (2P PL.: /w/ ~ /v/).

- We presume that the two allomorphs appear with the lexical precedence ‘fricative>glide’, as in {/div/>/diw/} for the stem of *diuen* (on lexically ordered allomorphs, see Bonet *et al.* 2007 and Mascará 2007).

→ There is an independent argument for giving precedence to the fricative: the labiodental fricative is the variant appearing in onset position, which, as known, is a neutral position that favors faithfulness and thus avoids alterations (Beckman 2001).

→ The preference for the dominant allomorph is ensured by the constraint **PRIORITY**: “Respect lexical priority (ordering) of allomorphs” (Bonet *et al.* 2007: 902; Mascará 2007: 726).

(33) Selection of the allomorph with final /v/

	PRIORITY	*VFRICATIVE _{M1} V	*[o]	*VGLIDE _{[+HI],M1} V	ID- [-cons]	ONSET	*M1/GLIDE _[-HI]	*VGL _{[-HI],M1} V	*M1/GLIDE _[+HI]
☞ a. [ˈdi.vən] ₁		*							
b. [ˈdi.wən] ₂	*!		*						*
c. [ˈdi.ɔən] ₂	*!		*				*	*	

(Simplified tableau)

F. Ranking argument:

F1: PRIORITY >> *VFRICATIVE_{M1}V

→ selection of the preferred allomorph, in spite of having an intervocalic fricative

Word-initial position (#λ_{M1}V)

(34) Varieties with intervocalic weakening and word-initial preservation of /j/ + intervocalic preservation and word-initial preservation of /w/

/j ₁ o ₂ /gurt	MAX-[PAL]	ID-[PAL]	ID-[-cons]	ONSET	*M1/GLIDE _[-HI]	*M1/GLIDE _[+HI]
a. [j ₁ o ₂]						*
b. [ɟ ₁ o ₂]					*!	
c. [o ₂]	*!			*		
d. [ʒ ₁ o ₂]			*!			
e. [dʒ ₁ o ₂]			*!			
f. [tʃ ₁ o ₂]			*!			

/w ₁ e ₂ /b	*[o]	MAX-[LAB]	ID-[LAB]	ID-[-cons]	ONSET	*M1/GLIDE _[-HI]	*M1/GLIDE _[+HI]
a. [w ₁ e ₂]							*
b. [o ₁ e ₂]	*!					*	
c. [e ₂]		*!			*		
d. [v ₁ e ₂]				*!			

G. Partial ranking and ranking arguments:

G1. Emergence of the *M1/λ hierarchy

G2. ID-[-cons] >> *M1/GLIDE_[+HI] >> ... >> *M1/FRIC

→ preservation (34a [1st & 2nd tableaux]) over strengthening strategies (34d [1st & 2nd tableaux], e, f)

(35) Varieties with intervocalic deletion and word-initial preservation of /j/ + intervocalic preservation and word-initial preservation of /w/

/j ₁ o ₂ /gurt	ID-[PAL]	ID-[-cons]	ONSET	*M1/GLIDE _[-HI]	MAX-[PAL]	*M1/GLIDE _[+HI]
a. [j ₁ o ₂]						*
b. [ɟ ₁ o ₂]				*!		
c. [o ₂]			*!		*	
d. [ʒ ₁ o ₂]		*!				
e. [dʒ ₁ o ₂]		*!				
f. [tʃ ₁ o ₂]		*!				

/w ₁ e ₂ /b	*[o]	MAX-[LAB]	ID-[LAB]	ID-[-cons]	ONSET	*M1/GLIDE _[-HI]	*M1/GLIDE _[+HI]
a. [w ₁ e ₂]							*
b. [o ₁ e ₂]	*!					*	
c. [e ₂]		*!			*		
d. [v ₁ e ₂]				*!			

H. Partial ranking and ranking arguments:

H1. Emergence of the *M1/λ hierarchy

H2. ID-[-cons] >> *M1/GLIDE_[+HI] >> ... >> *M1/FRIC

→ preservation (35a [1st & 2nd tableaux]) over strengthening strategies (35d [1st & 2nd tableaux], e, f)

Word-final position (λ_{M2})

(36) Selection of the allomorph with final /w/ (cf. (33))

$\{/ \{ \text{div}_1 > \text{diw}_2 \} /$	*M2/FRICATIVE	PRIORITY	ID-[-cons]	ID-[HI]	*M2/GLIDE _[+HI]	*M2/GLIDE _[-HI]
a. [¹ div] ₁	*!					
b. [¹ diw] ₂		*			*	
c. [¹ diq] ₂		*		*!		*

I. Partial ranking and ranking arguments:

I1. Emergence of the *M2/ λ hierarchy

I2. *M2/FRICATIVE >> PRIORITY

→ selection of the second choice allomorph (36b) over the default allomorph (36a)

I3. ID-[HI] >> *M2/GLIDE_[+HI] >> *M2/GLIDE_[-HI]

→ general preservation of high glides (36b) over lowered glides, more harmonic as M2 (36c)

4. CENTRAL EASTERN CATALAN: A NON-ADJUSTING VARIETY

- Always preservation of the glides, as M2 & also as M1.

→ Central Eastern Catalan is a faithful variety in which the markedness constraints

*M2/GLIDE_[+HI], *M1/GLIDE_[+HI] and VGLIDE_{[+HI],M1}V are consistently outranked by the relevant faithfulness constraints.(For more, see Jiménez *et al.* in press.)**5. CASTILIAN SPANISH: A ONE-WAY ADJUSTING VARIETY**

- M2: Always preservation of the glides.
 - The markedness constraint *M2/GLIDE_[+HI] is outranked by the relevant faithfulness constraints.
- M1: Always strengthening (via splitting of /w/ both in word-initial and intervocalic position; via affrication of /j/ in word-initial position and via fricativization in intervocalic position)
 - Word-initial M1: /j/ & /w/ maximally reinforced. *M1/Glide_[+HI] is located at the top of the ranking, crucially above the relevant faithfulness constraints.
 - Intervocalic M1: /j/ & /w/ reinforced, but not maximally. In our approach, this is due to the conjoined action of *M1/GLIDE_[+HI] and *VSTOP_{M1}V at the top of the ranking as well; as a result, neither the best consonants (an affricate or a stop) nor the worst ones (glides) in M1 are available as intervocalic M1.

(For more, see Jiménez *et al.* in press)**6. FINAL REMARKS**

- The Split Margin Hierarchy (Baertsch 2002) induces most of the variation that Catalan & Spanish display:
 - Less sonorous segments are preferred in M1.
 - More sonorous segments are preferred in M2.
- We must consider, though, segmental strings to incorporate specific requirements affecting intervocalic onsets, where more sonorous segments are also preferred.
- The behavior of /j/ in Majorcan Catalan shows that the intervocalic position is not a structural version of M2, but a position with specific demands; in this case, an even lower degree of stricture than in M2 (due to *VGLIDE_{[+HIGH],M1}V).
- In Majorcan Catalan, the effects of *VGLIDE_{[+HIGH],M1}V are so strong, that not only a process of weakening (lenition) applies, but also various processes of contextually conditioned and not conditioned deletion (at the expense of violating ONSET).

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CONSTRAINT DEFINITIONS

Faithfulness constraints

- ID-[PAL]: Assign one violation mark for every palatal segment in S_1 whose output correspondent in S_2 is not palatal (see McCarthy & Prince 1995).
- ID-[LAB]: Assign one violation mark for every labial segment in S_1 whose output correspondent in S_2 is not labial (see McCarthy & Prince 1995).

ID-[cons]: Assign one violation mark for every [-consonantal] segment in S_1 whose output correspondent in S_2 is not [-consonantal] (see McCarthy & Prince 1995).

MAX-[PAL]: Assign one violation mark for every palatal segment in S_1 that has no correspondent in S_2 (see McCarthy & Prince 1995).

MAX-[LAB]: Assign one violation mark for every labial segment in S_1 that has no correspondent in S_2 (see McCarthy & Prince 1995).

PRIORITY: Respect lexical priority (ordering) of allomorphs (Bonet *et al.* 2007: 902; Mascaró 2007: 726).

Markedness constraints

*M1/GLIDE_[-HI]: Assign one violation mark for every [-HI] glide syllabified as the first element in an onset (it belongs to a universal constraint hierarchy; see Baerstch 2002).

↳ *M1/GLIDE_[+HI]: Assign one violation mark for every [+HI] glide syllabified as the first element in an onset.
↳ ...

*M2/FRICATIVE: Assign one violation mark for every fricative syllabified as the first element in a coda (it belongs to a universal constraint hierarchy; see Baerstch 2002).

↳ *M2/GLIDE_[+HI]: Assign one violation mark for every [+HI] glide syllabified as the first element in a coda.
↳ ...

*VFRICATIVEV: Assign one violation mark for every fricative syllabified in onset position and placed in intervocalic position (it belongs to a universal constraint hierarchy; see Kirchner 1998, Uffmann 2007).

↳ *VGLIDE_{[+HI], M1 V}: Assign one violation mark for every [+HI] glide syllabified in onset position and placed in intervocalic position.
↳ ...

*[Q̥]: Assign one violation mark for every glide specified as labial and [-HI] (feature co-occurrence / inventory constraint)