Prominence-driven epenthesis in Alguerese Catalan*

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(1) • *Case study*: Epenthesis in Alguerese (the Catalan variety spoken in Alghero, Sardinia).
• *Topic*: [a] epenthesis at word level vs. [i] epenthesis between words; different contexts.
• *Challenge to*: Parallel approach; unique default vowel in epenthesis.
• *Goal*: Parallel analysis: the selection of one or the other vowel is not arbitrary, but is driven by prominence (in line with work by de Lacy 2002, Uffmann 2004, 2005).

I. DATA[1]

(2) a. Stressed position: [i, u, o, ɔ, e, ɛ, a]
b. Unstressed position: **[i, u, a]** **Alguerese** ([i, u, ə] Central; [i, u, o, e, a] Western)

(3) *Epenthesis*:

		Alguerese (A)	Central (C)	Western (W)
Lexical level	a. within morph	—	—	—
	b. initial position	a	ə	a
	c. final position	a	ə	e
	d. between morphs	a	ə	e
Postlexical level	e. between words	i	—	—

(4)

(=3b)	*espina*	/spína/:	[a̲spína] (**A**,W)	[ə̲spína] (C)		‘spine’
(=3c)	*sofre*	/sófr/:	[sófra̲] (**A**)	[sófrə̲] (C)	[sófre̲] (W)	‘sulfur’
	ventre	/véntr/:	[véntra̲] (**A**)	[béntrə̲] (C)	[véntre̲] (W)	‘belly’
(=3d)	*ventres*	/véntr+z/:	[véntra̲s] (**A**)	[béntrə̲s] (C)	[véntre̲s] (W)	‘bellies’
	coinexeré	/kunéʃ+ɾé/:	[kunaʃa̲ɾé] (**A**)	[kunəʃə̲ɾé] (C)	[konejʃe̲ɾé] (W)	‘I will know’

(=3e)	*és tot pastura*	/tót##pastúra/:	[ès tot i̲ pastúra] (**A**)	‘all is pasture’	(cf. *tot* [tót])
	cent voltes	/sént##vɔ́ltaz/:	[sènt i̲ vɔ́ltas] (**A**)	‘a hundred times’	(cf. *cent* [sént])
	porc món!	/pɔ́lk##món/:	[pɔ̀lk i̲ món] (**A**)	‘dirty world!’	(cf. *porc* [pɔ́lk])

(5) a. Clitics /CV(C)/ = within words (i.e. no epenthesis but simplification; other special phenomena):

renta-te	/rénta#ta/:	[réntata]	‘wash yourself!’
rentant-te	/rentánt#ta/:	[rantánta]	‘washing yourself’

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[1] The Alguerese data are mainly from Loporcaro (1997) and the *Corpus Oral Dialectal* (COD) of the Universitat de Barcelona. Other sources used are Recasens (1991) and Bosch (2002). Throughout the handout, epenthetic V are underlined for clarity.

b. Compounds = between words (i.e. i-epenthesis), except for some lexicalized words:

cent-seixanta	/sént##ʃiʃánta/:	[sènt i ʃiʃánta]	‘160’	
cap de mort	/káb##de#mɔrt/:	[kàp i ðe mɔlt]	‘skull’	(*also*: [kà ðe mɔlt])
camp sant	/kámp#sánt/:	[kan͡tsánt]	‘cemetery’	(cf. Loporcaro 1997)

(6) Diachronic development of [i]-epenthesis (Kuen 1934, Loporcaro 1997; cf. data from Bosch 2002, COD):

a.	Until the XIX century:	deletion	cf. *cap de mort* [kà ðe mɔlt]
b.	Around the 1930s:	deletion/excrescent vowel (Levin 1987)	short [i], [ɨ, ë] (≠ /i/) (Kuen 1934)
c.	From the 1990s:	epenthesis	[i] (= /i/) (Loporcaro 1997)

II. MOTIVATION FOR EPENTHESIS

(7) **Lexical epenthesis** (contra Loporcaro 1997; pro other literature on Catalan):

a. *Minimal Redundancy* (vs. Lexicon Optimization): Initial position: Ex. /spína/ [aspína] ‘spine’
Final position: Ex. /sófr/ [sófra] ‘sulfur’

b. *Further evidence*: In loan adaptation [a] is always inserted: [a]*spaguets*, [a]*Snoopy*.

(8) **Trigger of lexical epenthesis**: *Syllabic reasons*: SON={SONORITYSEQUENCING, SONORITYDISTANCE…}

a. Ex.: [aspína] ‘spine’, [sófra] ‘sulfur’, [véntra] ‘belly’, [véntras] ‘bellies’; [kunaʃaré] ‘I will know’

b. *But*: In Alguerese (and Balearic) SONSEQUENCING can be violated in 1st singular Present Indicative forms due to a paradigmatic effect: in terms of Optimal Paradigms (McCarthy 2005), to homogenize the output form of the stems (cf. Lloret 2004, Wheeler 2005):

jo ensofr [ansófr] ‘I sulfurate’ vs. *sofre* [sófra] ‘sulfur’

Optimal Paradigm effects further explains maintenance of certain final consonants that are otherwise deleted. E.g., *n* final word deletion (in all Catalan dialects):

man ‘I order’ vs. *mà* ‘hand’
entén ‘(s)he understands’

(9) For our purposes, *Basic ranking*: **SON >> MAX >> DEP >> *CODA**

(10)

/sént/ ‘100’	SON	MAX	DEP	*CODA
☞a. sént				*
b. sén.ta			*!	*
c. sén		*!		*

/véntr/ ‘belly’	SON	MAX	DEP	*CODA
a. véntr	*!			*
☞b. vén.tra			*	*
c. vént		*!		*

(11) **Postlexical epenthesis:**

a. To avoid internal complex codas, except G+N/s codas:

[sènt i vɔ́ltas] ‘a hundred times’ [pɔ̀lk i món] ‘dirty world!’
[animàl͡ts i patít͡s] ‘small animals’ (cf. *animal* [animál], *animal+s* [animál͡ts])
[diwŋ kɔ́zas] ‘they say things’ [fè wm prajé] ‘to make a pleasure’
[kɔwz bé] ‘you cook well’ (cf. [majstrál] ‘NW wind’)

b. To avoid f, Stops, and Affricates as internal single codas:

[vìf i̲ bé]	'I live well'	(cf. /vív/: [víf])	vs.	*és pastura* [s.p]
[ès tot i̲ pastúɾa]	'all is pasture'	(cf. /tót/: [tót])	vs.	*vol pastura* [l.p]
[tòt͡s i̲ taním]	'all us have'	(cf. /tót+z/: [tót͡s])		
[dazìt͡ʃ i̲ féw]	'bad desire'	(cf. /dazíd͡ʒ/: [dazít͡ʃ])		

(12) **Trigger of postlexical epenthesis**: Not related to the nature of the following C (no Syllable Contact Law), but *perceptibility* of certain consonants depending on the environment. Some factors affecting C perceptibility (Padgett 1995; Steriade 1999, 2001; Côté 2000; Wright 2004, among others):

- Class of consonants: ... Nasals > **Sibilant fricatives** > Obstruents
- "…vulnerable cues such as consonant bursts or weak friction" (Wright 2004)
- _Son > _# > _ (Padgett 1995) (thus, final position better than pre-C coda position)
- C > **CC** > CCC

In line with the *complexity* ranking for final demisyllables proposed by Clements (1990), based on the Dispersion Principle (though all obstruents grouped together in Clements' account):

- 2-member final demisyll.: VG (Complexity 1) > VL (2) > VN (3) > **VO (4)**
- 3-member final demisyll.: VGL (1) > VGN, VLN (2) > **VGO, VNO (3) > VLO (4)**

(13) In our case:

a. V = Vowel; G = glide; L = liquid; N = Nasal; S= Sibilant fricative; **O = f, Stop, Affricate**

b. *Sonority scale*: Vowel > Glide > Liquid > Nasal > Sibilant fricative > f, Stop, Affricate

Decreasing *perceptibility* in codas →

	C	CC			
FINAL	√ VG káw				
	√ VL bél	* *VGL*			
	√ VN fém	√ VGN díwn	* *VLN* [a]		
	√ VS és	√ VGS réjs	* *VLS* [b]	* *VNS* [c]	
	√ VO tót	√ VGO pú(w)k	√ VLO pólk	√ VNO sént	√ VSO víst
INTERNAL	√ VG kɔw bé				
	√ VL bèl pɾajé	* *VGL*			
	√ VN fèm prajé	√ VGN fè wm prajé	* *VLN* [a]		
	√ VS es tót	√ VGS kɔwz bé	* *VLS* [b]	* *VNS* [c]	
	* VO tòt i̲ tapát	* VGO pú(w)k i̲ també	* VLO pòlk i̲ món	* VNO sènt i̲ vóltas	* VSO vìst i̲ tót

[a] rC > lC and -ln > -l: *carnassa* [kal.ná.sa] 'bad meat', *carn* [kál] 'meat'.

[b] Intrusive stop: LS > LO, [l͡ts]: *per**s**ona* 'person', *ca**r**+**s*** 'expensive (pl.)', *anima**l**+**s*** 'animals'.

[c] Intrusive stop: NS > NO, [n͡ts]: *ma**n**+**s*** 'hands', ***any**+**s*** 'years', *fu**nc**ió* 'function'.

(14) • ***O.C:** Cover constraint combining the banning of low-sonority/perceptibility segments (the worst being O = f, stops, affricates) and low-perceptibility positions (the worst being pre-consonantal coda position). (*O.C prohibits the internal codas shaded in (13).)

• *Ranking*: ***O.C**, SON >> MAX >> DEP >> *CODA

(15)

/tót/ 'all (sg.), any'	*O.C	SON	MAX	DEP	*CODA
☞a. tót					*
b. tó			*!		
c. tó.ta				*!	

(16)

/tót+z/ 'all (pl.)'	*O.C	SON	MAX	DEP	*CODA
☞a. tó͡ts					*
b. tós			*!		*
c. tó.tas				*!	*

(17)

/tót tápad/ 'all covered'	*O.C	SON	MAX	DEP	*CODA
a. tot.táp	*!				**
b. to.táp			*!		*
☞c. tò.ti.táp				*	*

(18) *tot segur* [tòt i sagúr], *[tò.t͡sagúr] 'all sure' = *poc líquido* [g.l], *[kl], *[gl] 'few liquid'
pot rumpir [d.r], *[tr], *[dr] '(s)he can break'

as an effect of **ALIGN-LEFT (PrWd, σ)**, which is only violated to avoid onsetless syllables:

- ONSET >> AL-L (cf. Jiménez 1999, Bonet&Lloret 2005): *tot útil* [to.tú.til] 'all useful'

(19) • *Ranking*: **AGREE-PLACE**, *O.C, SON >> MAX >> DEP >> *CODA

(20)

/táp+z/ 'corks'	AGREE-PL	*O.C	SON	MAX	DEP	*CODA
a. táps	*!		*			*
☞b. tá͡ts						*
c. tás				*!		*
d. tá.pas					*!	*

(21)

/tót pagád/ 'all paid'	AGREE-PL	*O.C	SON	MAX	DEP	*CODA
a. tòt.pa.gát	*!	*				**
b. tòp.pa.gát		*!				**
c. tò.pa.gát				*!		*
☞d. tò.ti.pa.gát					*	*

(22) • *Ranking*: **MAX-MANNER**, AGREE-PLACE, *O.C, SON >> MAX >> DEP >> *CODA

(23)

/tót naturál/ 'all natural'	MAX-MAN	AGREE-PL	*O.C	SON	MAX	DEP	*CODA
a. tòd.na.tu.ɾál			*!				**
b. tòn.na.tu.ɾál	*!						**
c. tò.na.tu.ɾál	*!				*		*
☞d. tò.ti.na.tu.ɾál						*	*

(24)

/vɔ́l negáɾ/ '(s)he wants to deny'	MAX-MAN	AGREE-PL	*O.C	SON	MAX	DEP	*CODA
☞a. vɔ̀l.na.gá							*
b. vɔ̀n.na.gá	*!						*
c. vɔ̀.na.gá	*!				*		
d. vɔ̀.li.na.gá						*!	

III. SITE OF EPENTHESIS:

(25) **Lexical level:**

a. Initial/final position: CONTIGUITY responsible for edge-epenthesis and for non-epenthesis within a morph ([aspína], *[sapína] 'spine'; [véntɾa], *[véntar] 'belly').

- O-CONTIGUITY: No intrusion; it bans morpheme internal epenthesis. (Cf. McCarthy&Prince 1995)

b. Between morphs: Epenthesis occurs as a last resort strategy ([véntɾas] 'bellies']) (cf. Jiménez 1999, Bonet&Lloret 2002, 2005; see Bonet&Lloret 2002 for OCP cases).

c. • *Ranking*: **CONT**, MAX-MAN, AGREE-PL, *O.C, SON >> MAX >> DEP >> *CODA

(26)

/véntɾ/ 'belly'	CONT	MAX-MAN	*O.C	SON	MAX	DEP	*CODA
a. véntr			*!	*			*
b. vént		*!			*		*
☞c. vén.tɾa						*	*
d. vén.tar	*!					*	**

(27) **Postlexical level:**

/sént tápz/ '100 corks'	CONT	MAX-MAN	*O.C	SON	MAX	DEP	*CODA
a. sent.táts͡			*!				**
b. sen.táts͡					*!		**
☞c. sèn.ti.táts͡						*	**

(28)

/tót+z tením/ 'all us have'	CONT	MAX-MAN	*O.C	SON	MAX	DEP	*CODA
a. tòt͡s.ta.ním			*!				**
b. tòs.ta.ním		*!			*		**
c. tò.t̲a̲s.ta.ním						*	**!
☞d. tò.t͡s̲i̲.ta.ním						*	*

IV. VOWEL SELECTION

IV.1. The nature of the inserted vowel

(29) **Perceptual approach** (based on phonetic grounds): Epenthetic vowels are conditioned by the perceptual component of the grammar.

a. Most sonorous vowels are the best nuclei (cf. Prince&Smolensky 1993):
- Nuc/a ≻ Nuc/ɛ,ɔ ≻ Nuc/e,o ≻ Nuc/i,u ≻ Nuc/ə

b. Positional-perceptual basis (cf. Kenstowicz 1996, de Lacy 2002, Gouskova 2003):

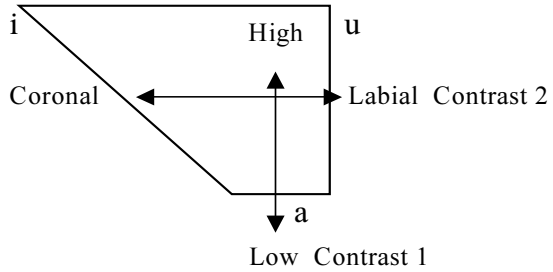
Nucleus sonority scale in strong branches of feet:
- *FootHead (Peak) scale*: $Peak_{Ft}$/a ≻ $Peak_{Ft}$/e,o ≻ $Peak_{Ft}$/i,u ≻ $Peak_{Ft}$/ə

Nucleus sonority scale in week branches of feet (the previous scale is reversed):
- *FootNonHead (Margin) scale*: Mar_{Ft}/ə ≻ Mar_{Ft}/i,u ≻ Mar_{Ft}/e,o ≻ Mar_{Ft}/a

Along the same lines, Steriade (2001): Epenthetic segments are always perceptually minimal, i.e. closest to zero: ə > i > ... > a.

(30) According to (29a), [a] selection in Alguerese OK.
According to (29b), [i] selection in Alguerese OK (because prohibition on [ə]).
Question: How to account for the selection of one or the other vowel?

(31) **Phonological approach**: Epenthetic vowels are the unmarked vowels of the system (language specific).



(32) a. [i], [u] are [High] and have Place features (Coronal/Labial) to contrast among them.
b. [a] is [Low] and does not have any specification for Place because it does not contrast with any other [Low] vowel: [a] is the least marked vowel and thus selected as epenthetic.

Problem: How to account for the selection of [i]?

(33) **Mixed approach**: Both the perceptual and the phonological components of the grammar intervene in the selection of the inserted vowel (cf. Rose&Demuth, forthcoming).
Question: How to account for the selection of one or the other vowel?

IV.2. Levels and vowel selection

(34) **Analysis I**: Lexical epenthesis does not exist: all [a]'s are in the Input (cf. Loporcaro 1997).

- [i]-epenthesis chosen on phonetics grounds only (closest to zero, less sonorous vowel).

Problems (cf. (7)): In loans, [a] ([a]*Snoopy*, [a]*spaguets*). It further limits Freedom of Analysis.

(35) **Analysis II**: Serial approach:

- [a] at the lexical level, chosen on phonological basis.
- [i] at the postlexical level, chosen on phonetic grounds..

(36) **Analysis III**: Parallel approach:

a. Nucleus sonority scale on positional-perceptual basis (= (29b)):

- *FootHead (Peak) scale*: $Peak_{Ft}$/a ≻ $Peak_{Ft}$/e,o ≻ $Peak_{Ft}$/i,u ≻ $Peak_{Ft}$/ə
- *FootNonHead (Margin) scale*: Mar_{Ft}/ə ≻ Mar_{Ft}/i,u ≻ Mar_{Ft}/e,o ≻ Mar_{Ft}/a

b. **Our proposal:** The offside position of a Prosodic Word also is a weak structural position with respect to the Prosodic Word itself (on *weak structural positions* within the Prosodic Word, see Hagstrom 1997, de Lacy 2002, Kiparsky 2003; on consonant epenthesis motivated by prominence, see Uffmann 2005):

- *PrWordIn (Peak) scale*: $Peak_{PrWd}$/a ≻ $Peak_{PrWd}$/e,o ≻ $Peak_{PrWd}$/i,u ≻ $Peak_{PrWd}$/ə
- *PrWordOff (Margin) scale*: Mar_{PrWd}/ə ≻ Mar_{PrWd}/i,u ≻ Mar_{PrWd}/e,o ≻ Mar_{PrWd}/a

(37)

+ Prominent		– Prominent
PrWord In		PrWord Off
Foot Head	Foot NonHead Word-Initially Word-Finally	

Hence, within the Prosodic Word the vowel selected is the best one from the perceptual point of view (i.e. [a]), while off the Prosodic Word the least sonorous (closest to zero) vowel can be selected (i.e. [i]) on positional-weakness perceptual basis.

(38) *Advantages*:

a. Parallelism can be maintained.

b. The selection of the two vowels is inferred from a unique ranking of constraints: No need of underspecification.

c. It is predicted that if there is a difference between lexical and postlexical vowels, the least prominent will always be the postlexical one. Along the same lines, if the difference occurs within the Word, it is predicted that the most prominent vowel will be that occurring in initial position. The facts of Western Catalan support this claim (unstressed system: [i, u, a, e, o]):

- Word-initial epenthesis: [aspína] 'spine'
- Word-final epenthesis: [véntre] 'belly'

Although /a/ becomes [e] in final closed syllable: *casa* [káza], *cases* [kázes] 'house(s)'; *canta* [kánta], *cantes* [kántes], *canten* [kánten] '(s)he/you/they sing'.

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