

EXPLAINING DEVIATIONS FROM SONORITY PREFERENCES IN THE DISTRIBUTION OF RHOTICS IN CATALAN

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SUMMARY: a) Catalan contrasts two rhotics, but only in intervocalic position: the alveolar tap [r] and the alveolar trill [r̄]:

pa[r]a 'stop.IMP' pa[r̄]a 'grapevine'

b) The contrast is neutralized in all other positions:

- in some contexts without variation: [r]oca 'rock', pre[r]omà 'pre-Roman', hon[r]a 'honor'
- in other contexts with variation: a[r]c ~ a[r̄]c 'arch', co[r] ~ co[r̄] 'heart'

GOALS: 1. To analyze the distribution of rhotics in 3 Catalan dialects: **Algherese** (Alghero, Sardinia), **Central Catalan** (eastern Catalonia) and **Valencian**.
2. To show that the distribution of taps and trills is **predictable** from constraints related to their sonority level and their position in the syllable & that any **deviation** from the expected pattern derives from the action of **other families of constraints** (Jiménez & Lloret, in press).

1. THEORETICAL ASSUMPTIONS

Underlying representations:

- ✓ **Intervocalic trills:** lexically marked, as /r̄/ (under richness of the base, other options are possible).
- ✓ All **other rhotics:** /r/, underspecified for the trill-tap distinction.

✓ **Sonority level** of the liquids in Catalan: the trill [r̄] is considered less sonorous than the tap [r], with the lateral [l] somewhere in between (see, e.g., Bonet & Mascaró 1997, Parker 2002: 233, 2011: 1177; Pons-Moll 2008, 2011). Assumed **sonority hierarchy for liquids:**

- ✓ Tap [r] > Lateral [l] > Trill [r̄]

✓ The **marked status** of the rhotics is **relative**, depending on their syllabic position. To understand their preferences, we follow the **Split Margin approach to syllable organization** (Baertsch 2002; Baertsch & Davis 2003; Davis & Baertsch 2011): margins can be divided into two categories:

- ✓ **Margin 1** (M1: a singleton onset, the first element of a complex onset and the second element of a complex coda): **less sonorous elements** preferred:
*M1_{Tap} >> *M1_{Lateral} >> *M1_{Trill}
- ✓ **Margin 2** (M2: a singleton coda, the second element of a complex onset and the first element of a complex coda): **more sonorous elements** preferred:
*M2_{Trill} >> *M2_{Lateral} >> *M2_{Tap}
- ✓ Furthermore, in **intervocalic M1** there is also a cross-linguistic preference for **more sonorous elements** as well (see, e.g., Uffmann 2007, and for Catalan, Pons-Moll 2011):
*VM1V_{Trill} >> *VM1V_{Lateral} >> *VM1V_{Tap}

2. CONTEXTS WITHOUT VARIATION: GENERAL M1

✓ **General facts** about the distribution of rhotics in M1: The trill [r̄] is almost the exclusive solution, due to different conditionings:

✓ **Rhotics in the first position of an onset (M1)** are generally realized as [r̄], given the preference for trills in M1. Driving force: **Sonority-related constraints** (*M1_{Tap} >> *M1_{Trill}).

[r]oca 'rock' hon[r̄]a 'honor'

✓ **Root-initial rhotics (M1)** are always maintained as [r̄], even intervocalically, due to **uniformity effects**, stronger at the left edge of the root. Driving force: **OO-Faithfulness(left)**.

pre[r̄]omà 'pre-Roman' des[r̄]romanització 'deromanization'

✓ **Underlying intervocalic trills** surface as [r̄] in all dialects. Driving force: **IO-Faithfulness**.

pa[r̄]a 'grapevine'

4. THE PUZZLE OF LIQUID NEUTRALIZATION IN ALGHERESE

✓ **Algherese** presents liquid neutralization in 3 contexts in which more sonorous elements are preferred: **intervocalically**, in the **second position of an onset** and in **internal preconsonantal codas**.

- ✓ **Intervocalically** & in the **second position of an onset**, the outcome of neutralization is a tap [r]. This result is just another instance of sonority adaptation to the syllable margins: a tap [r] is more harmonic than a lateral [l]. (Torres-Tamarit *et al.* 2012). Driving force: **sonority-related constraints** (*VM1V_α & *M2_α rankings).

ma[r]ja 'bad.F' (cf. ma[l] 'bad.M')
p[r]at 'dish' (but also p[r̄]at) (cf. general Catalan p[l]at)

- ✓ **Preconsonantly**, liquids are neutralized as a lateral [l]. Although a tap [r] is preferred in M2, this outcome is altogether banned from preconsonantal codas in Algherese. Hence, the second-best segment in terms of sonority, that is, a lateral [l], is selected. Driving forces: **sonority-related constraints** (& **contextually-marked constraints**): a lateral [l] is more harmonic than a trill [r̄]:

mo[l]ta 'dead.F' mo[r̄] 'I die'

5. CONCLUSIONS

✓ **Predictable variability:** Catalan dialects provide rich evidence for the variability of rhotics. The attested variation is far from random: there is an inclusive relationship between the contexts in which trills can appear, in the order **Valencian** < **Central Catalan** < **Algherese**.

✓ **Adaptation to the syllable margins:** The realization of rhotics in Catalan mainly stems from **sonority-related segmental preferences** in the syllable margins, with trills generally preferred in M1 and taps preferred in M2 and in intervocalic M1.

✓ **Additional constraints:** Leaving aside the intervocalic contrasting trills (for which some kind of underlying specification is needed in all dialects), any deviation from these tendencies derives from **uniformity**, **contextually-marked** or **prominence-driven constraints** taking precedence over sonority conditions.

3. CONTEXTS WITH DIALECTAL VARIATION

✓ **General facts** about the distribution of rhotics in intervocalic M1 & all M2:

- ✓ **Always realized as a tap [r] in Valencian**, following the requirements of **sonority-related constraints** (*VM1V_α & *M2_α rankings):

a[rk] 'arch' he[rβ]ja 'grass'
co[r] 'heart' co[r] obert 'open heart'
Sasse[r] 'Sassari' t[r̄]enta '30'

- ✓ **Emergence of trills:** **Central Catalan** presents a trill [r̄] in some contexts in which Valencian exhibits a tap; **Algherese** enlarges even more the environments in which a trill [r̄] may appear → **alternative constraints** are at play.

- ✓ Hence, there is an **inclusive** relationship between dialects: e.g., for the **thrill**:
Valencian [r] < **Central Catalan** [r̄] < **Algherese** [r̄]

✓ **4 contexts with a possible trill [r̄] in Central Catalan & Algherese** ([r̄] in Valencian):

✓ **Preconsonantal codas (Central Catalan [r̄] < Algherese [r̄]):**

- ✓ With a trill [r̄] in **Central Catalan**, except when C2 is an approximant. Driving force: **contextually-marked constraint** demanding the coincidence in the value of the [±continuant] feature, based on general coarticulatory phonetic conditions, presumably universal (Recasens 1993: 178):

a[rk] 'arch' he[rβ]ja 'grass'

- ✓ **Algherese:** since /b, d, g/ display stop allophones, all preconsonantal rhotics that are not neutralized as a lateral (see § 4) tend to be realized as trills in this context:

a[rk] 'arch' go[r̄]gjonzola 'gorgonzola cheese'

✓ **Final rhotics (Central Catalan [r̄] < Algherese [r̄]):**

- ✓ Final position is regarded as intermediate in terms of prominence (Barnes 2008, Kaplan 2015). Typically, prominent positions tend to attract features that are more salient, stronger. Driving force: **alignment of segmental prominence & positional prominence**. Hence, trills can be preferred in that position, just in especially strong syllables (stressed syllables: **Central Catalan**)...

co[r] 'heart' Sasse[r] 'Sassari'

- ✓ ...or in all final syllables, without prosodic limitations (**Algherese**):

co[r] 'heart' Sasse[r] 'Sassari'

✓ **Resyllabified final rhotics, intervocalically (only Algherese):**

- ✓ Realized as taps in **general Catalan**. However, in **Algherese** they surface as trills due to the activation of uniformity effects referred to the right edge of the root. Driving force: **OO-Faithfulness(right)**. (In § 2 we saw that **OO-Faithfulness(left)** active in all dialects)

Central Catalan:
co[r] 'heart' co[r] obert 'open heart'
Algherese:
co[r̄] 'heart' co[r̄] obert 'open heart'

✓ **Second position of and onset (only Algherese):**

- ✓ The emergence of a tap [r] is in line with the preference for more sonorous segments in M2. The trilled pronunciation in **Algherese** is possibly an overgeneralization of the realization of rhotics in other non-contrastive contexts. Driving force: **CONSISTENCY_{Rhotic}**: "A rhotic always has the same output":

Central Catalan: t[r̄]enta '30'
Algherese: t[r̄]enta ~ t[r̄]enta '30'

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