Unity and difference of velars and labials

The case of Coratino

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Coratino

- Vowel reduction in Coratino
- Phonological identity of stress
- Phonological identity of s+C
- Relationship between labiality and velarity
- Interaction and difference between s+C with labiality/velarity

Coratino: vocalic system

in stressed position : **7** vowels		
front	central	back
i		u
e		o
ɛ		ɔ
	a	

in unstressed position : **2** vowels		
front	central	back
	ə	
	a	

7 phonemes /i, e, ɛ, u, o, ɔ, a/

(D'Introno & Weston 1997)

sˈiccə	"dry"
vˈ**e**nə	"he comes"
vˈ**ɛ**nə	"vein"
kˈusə	"him"
sˈ**o**kə	"I am"
sˈ**ɔ**kə	"rope"
t͡sˈappə	"hope"

Stress

- In an isolated root : stress cannot be predicted (lexical stress)
- Root + suffix: stress is always on the suffix.

"wheel" rˈotə "small wheel" rət + ˈɛddə

The phenomenon: reduction

- D'Introno & Weston (1997): V→ ə in unstressed positions except /a/ → [a]

n_	"fennel"	fənˈuccə	"little fennel"	fənəccˈɛttə
r_	"wheel"	rˈotə	"small wheel"	rətˈɛddə
m_	"apple"	mˈelə	"small apple"	məlˈɛddə
_m	"file"	lˈimə	"to file"	ləmˈatə

The phenomenom: non-reduction

- D'Introno & Weston (1997) and Bucci (2009): V → V in stressed position if the adjacent consonant shares a melodic feature.

p_	"poor"	pˈɔ̲vərə	"little poor"	pɔ̲vərˈiəddə
k_	"tincture"	kˈɔ̲nd͡zə	"tanner"	kṵnd͡zatˈorə
_m	"lamp"	lˈṵmə	"small lamp"	lṵmˈinə
_ɟ	"fog"	nˈɛ̲ɟɟə	"a lot of smog"	nɛ̲ɟɟˈusə
_ɟ	"daughter"	fˈi̲ɟɟə	"small daughter"	fi̲ɟɟˈɛttə

The phenomenom: non-reduction (next)

k_	"tincture"	kˈɔ͡ndzə	"tanner"	ku͡ndzatˈorə
g_	"august"	agˈustə	"trout"	agustənˈɛllə
_ʌ	"bottle"	buttˈeʌʌə	"small bottle"	butteʌʌˈonə
_ɟ	"daughter"	fˈiɟɟə	"to mother"	fiɟɟˈa
c_	"fold"	cˈɛkə	"to fold"	cek'a
c_	"church"	cˈesə	"small church"	cesarˈɛddə

Non-reduction: a new context

1. adjacent to a consonant which shares a melodic feature (labiality, velarity or palatality)
2. stressed position
3. **the beginning of the word**

1, 2 and 3 have the same effect = lack of reduction

Disjunction → 1, 2 and 3 have **something in common**

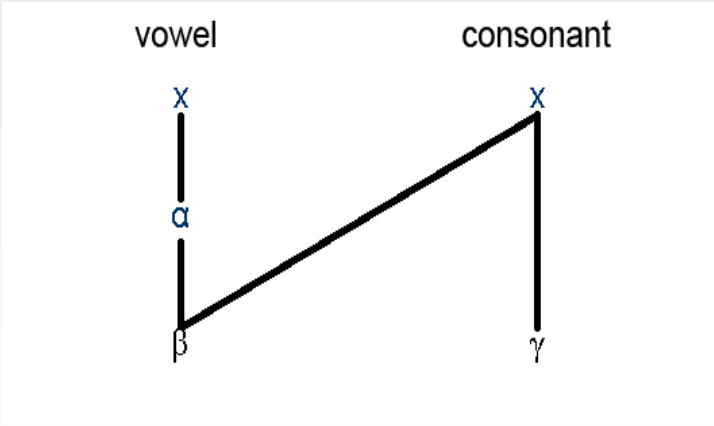
Sharing makes us stronger

- Honeybone (2005): sharing of melodic features between segments confers strength (resistance to lenition).
- inalterability of geminates
  for ex: in Tiberian Hebrew (see Selkirk: 1991):

Postvocalic geminate plosives are not subject to spirantisation

Branching between unstressed vowel and consonant sharing a feature

- unstressed vowel:
  - labial adjacent to labial consonant
  - velar adjacent to velar consonant
  - Palatal adjacent to palatal consonant

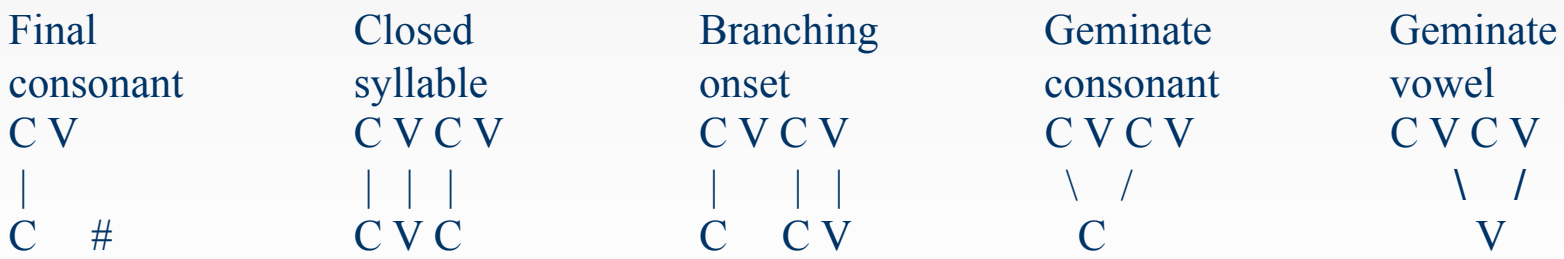


branching structure

Conclusion: stressed vowel = branching structure therefore structurally long vowel

CVCV

- syllabic structure: CVCV (Lowenstamm 1996, Scheer 2004): lateral relations are used instead of trees
- Minimal unit: CV unit



Identity of stress

- D'Introno & Weston (1997): untreated
- Cherchia (1986), Larsen (1998) and Ségéral & Scheer (2008): syllabic space

in CVCV = CV unit [stress CV]

stressed vowel in Coratino

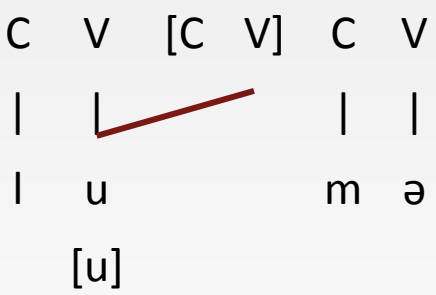
```
C V [C V]     stress
 |   \   /
 C    V
      [V]
```

unstressed vowel in Coratino

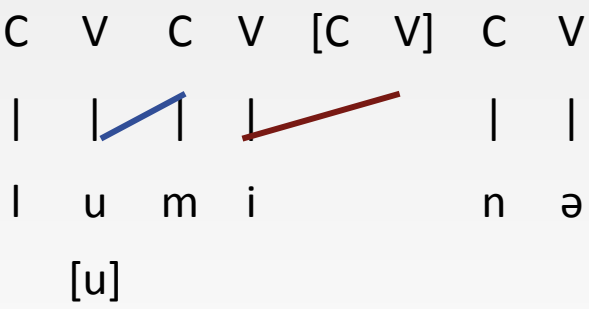
```
C V
| |
C V
  [ə]
```

Vocalic branching on the stress CV and on the melody of the consonant

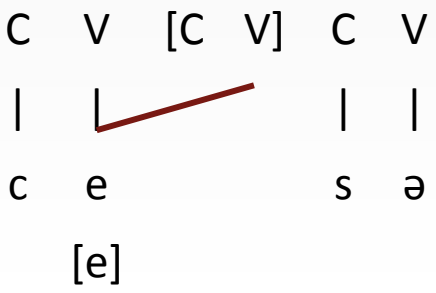
1) "lamp" [lˈumə]



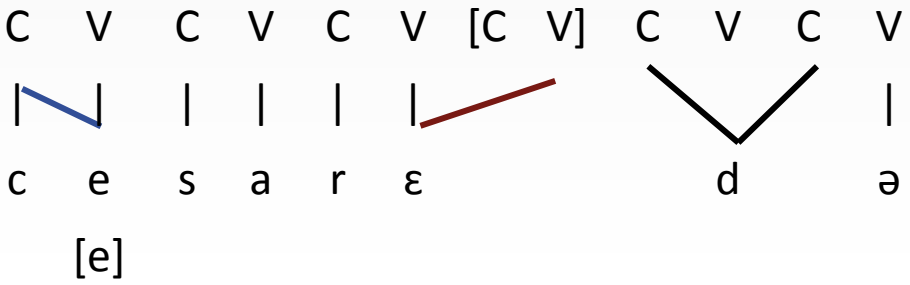
2) "small lamp" [lumˈinə]



3) "church" [cˈesə]

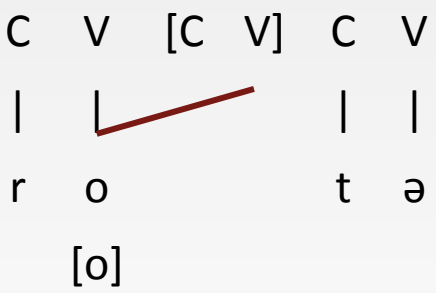


4) "small church" [cezar'ɛddə]

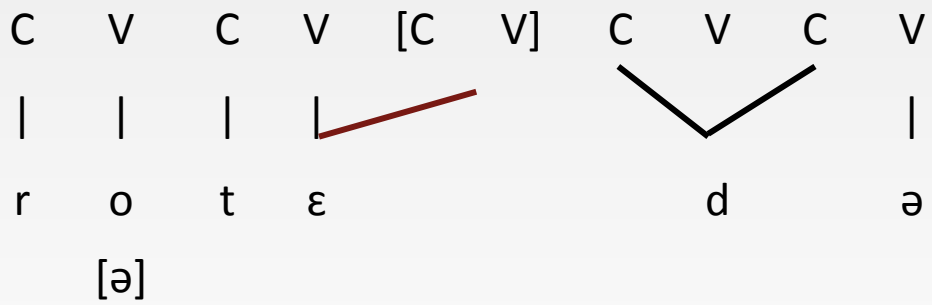


Vocalic branching on the stress CV but NOT on the melody of the consonant

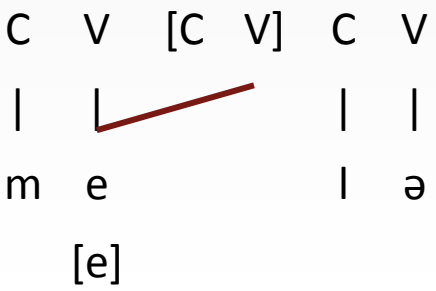
1) "wheel" [rˈotə]



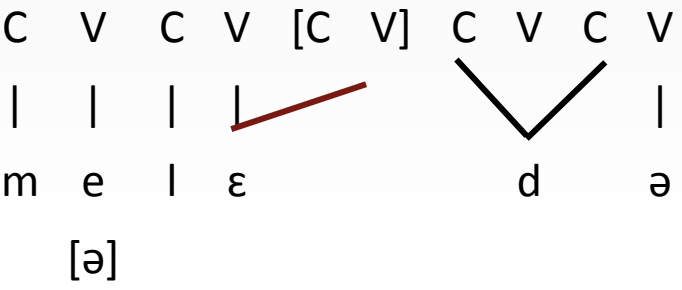
2) "small wheel" [rətˈɛddə]



3) "apple" [mˈelə]



4) "small apple" [məlˈɛddə]



The beginning of the word

- 3rd context which resists reduction (unstressed vowel): word-initially

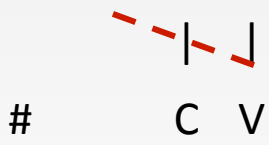
"hour"	[ˈorə]	"hour (dim)"	[orˈɛttə]
"nail"	[ˈɔɲɲə]	"small nail"	[oɲɲˈuiddə]
"grass"	[ˈɛrvə]	"small grass"	[ervəʧˈɛddə]
"last"	[ˈultəmə]	"to finish"	[ultəmˈa]

- Resistance to reduction implies the presence of a branching vowel
- Hence, word-initial vowels must be “branching”, i.e. long

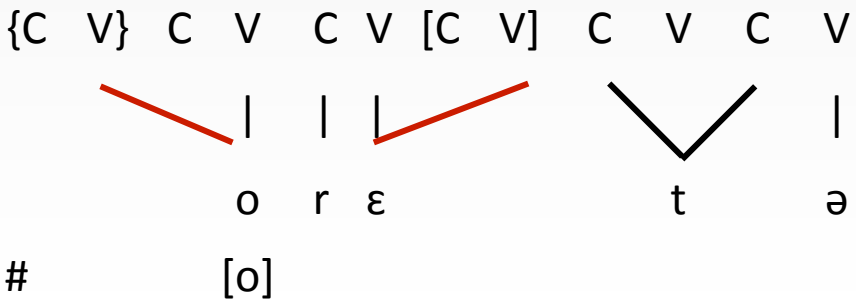
"The beginning of the word"

- Lowenstamm (1999): the beginning of the word is an empty {CV} site
- .{C V} C V

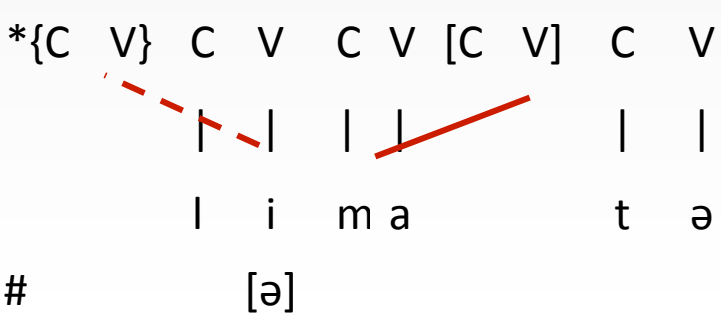
*{C V} C V



1) "small hour" [orˈɛttə]



2) "to lime" [ləmˈatə]



Generalisations

- Branching vowels are not reduced:
  - stress= space(stress CV)
  - sharing melodic primes (lab/vel or pal) between a V and C or between C and V.
  - word initial= space on the left (initial CV)
- Non-branching vowels are reduced

Virtual length

- Assumption: there may be a difference between the phonological representation of an object and its phonetic realisation.

/VV/	/V/
[i, e, ɛ, u, o, ɔ, a]	[ə]

- Virtual length (vowels and consonants) : Lowenstamm (1991), Bendjaballah (1995), Ségéral & Scheer (2001), Ben Si Saïd (2009) and Caratini (2009)

Asymmetry labial/velar

ᵽ_	"poor"	pˈɔ̲vərə	"small poor"	po̲vərˈiəddə
sp_	"sponge"	spˈu̲ɲɲə	"to sponge"	spə̲nd͡zˈa
sp_	"to answer"	rəspˈɔ̲nnə	"you answered"	rəspə̲nnˈutə
k_	"tincture"	kˈɔ̲nd͡zə	"tanner"	ku̲nd͡zatˈorə
sk_	"brush"	skˈo̲pə	"small brush"	sku̲pətˈɔddə
sk_	"obscure"	skˈu̲rə	"to obscure"	sku̲rˈɛʃʃə

Peculiarities

- [ɔ] stressed→ [o] unstressed/C lab [pˈɔvərə] [povərˈiəddə]
- [ɔ], [o] stressed→ [u] unstressed/C vél [kˈɔn͡dzə] [kun͡dzatˈorə]
- [ɛ] stressed→ [e] unstressed/C pal [nˈɛɟɟə] [neɟɟˈusə]

- [o, ɔ, u] stressed→ [ə] unstressed/sp_
- [o, ɔ, u] stressed→ [u] unstressed/sk_

Closure of the unstressed vowel in Italian

- In Italian, the – ATR vowel is stronger than the + ATR vowel *cf.* Krämer (2009): 100

[ɔ] → [o] = "early" reduction
[ɛ] → [e] = "early" reduction

ortop**e̲**d'i:a	"orthopedic"	lˈ**ɔ̲**d͡ʒika	"logic"
ortop'**ɛ̲**diko	"orthopedist"	l**o̲**d͡ʒikamˈente	"logically"

s+C Mystery

- It is well known that labial and velar consonants are closely related to back vowels cf. Scheer (1996,1999) and Ségéral (1995).
- **Coratino presents a surprisingly mixed situation: back vowels interact with labial and velar consonants BUT not when these are in an "s+C" cluster.**
- Labials and velars share part of their melodic identity, while at the same time they are melodically different. Finally, the difference is triggered by a preposed "S".

Element theory *cf.* KLV (1985), Backley (2011)

I = palatality
U = labiality/velarity
A = lowness
ʔ = constriction (occlusion)
h = continuity (fricative)

[i] = |I|
[e] = |I̲| + |A|
[ɛ] = |I|+ |A|
[a] = |A|
[u] = |U|
[o] = |U̲|+ |A|
[ɔ] = |U| +|A|

KLV: the U element represents both labiality and velarity.

Lass, 1984, Renninson, 1990, Scheer 1996 add a primitive: "B"= only labiality and the element "U"= only velarity.

Théorie des éléments *cf.* KLV (1985), Backley (2011)

I = palatalité
U = labialité/vélarité
A = bas
ʔ = constriction (occlusion)
h = continuité (fricative)
N = nasalité
H = cordes vocales tendues (voix)
L = cordes vocales relâchées (sourd)
R = coronalité

[i] = |I|
[e] = |I̲| + |A|
[ɛ] = |I|+ |A|
[a] = |A|
[u] = |U|
[o] = |U̲|+ |A|
[ɔ] = |U| +|A|

Melodic representation: Element theory *cf.*, Backley (2011)

Backley (2011) proposes that labials and velars contain the element |U|.

But to differentiate them:

Labial = |U̲|
Velar = |U|

Hence
[p] = |U̲| + |h| + |ʔ|
[k] = |U| + |h| + |ʔ|

Another element: Palatal = |I̲|

[i] = |I|
[e] = |I̲| + |A|
[ɛ] = |I|+ |A|
[a] = |A|
[u] = |U|
[o] = |U̲|+ |A|
[ɔ] = |U| +|A|

Hypothesis

- The difference between labial, palatal vs velar i.e. headed vs non-headed.
- **idea:**
  - the consonant's headed element = no reduction
  - the consonant's non-headed element = reduction

For branching to occur, the element which the consonant shares with the vowel has to be the head.

But with velars or "SK"clusters= no reduction to schwa in unstressed position. This would be a reduction to schwa but the|U| element colors the unstressed vowel.

This would explain why [o] → [u]/C vel and in "SK" clusters (same principle)

Elimination

- *Affricate ?*

Can we find palatal affricates that protect unstressed palatal vowels ?

If s+C had this identity, the vowel would be reduced to schwa.

ex:		
	sˈɛdd͡ʒə	sedd͡ʒətˈɛddə
	d͡ʒˈɛɲɲə	d͡ʒeɲɲˈonə
	a͡tʃˈidə	a͡tʃidətˈudənə

Elimination

- *S+C = coda-onset sequence ?*

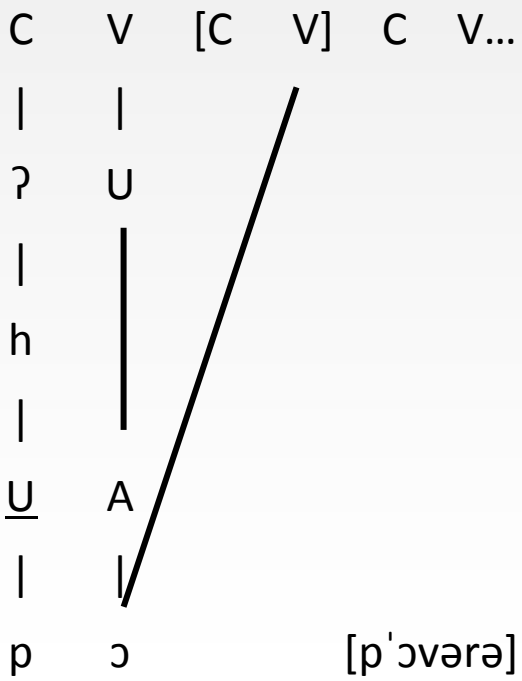
Can we find labial coda-onset sequences that protect unstressed labial vowels ?

If s+C had this syllabic identity, the vowel would be reduced to schwa.

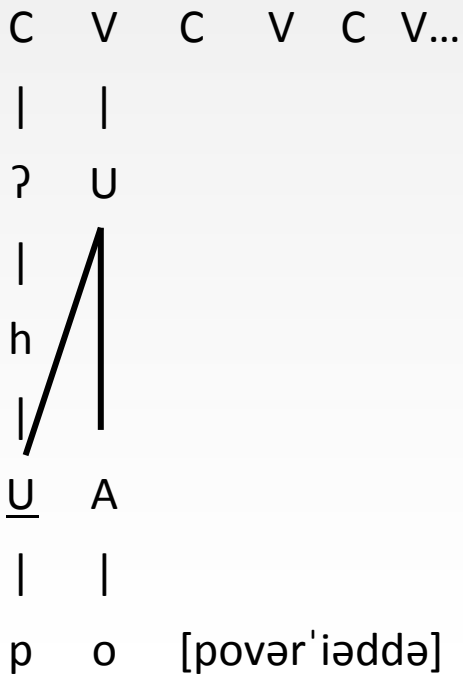
ex :	a**mbu**llˈinə	"cruet"
	ka**rbu**nˈatə	"carbonate"

Representations

1) [pˈɔvərə] "poor"

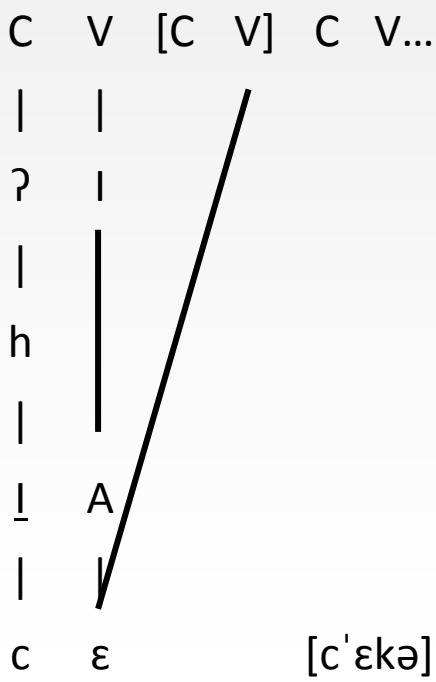


2) [povərˈiəddə] "dim"

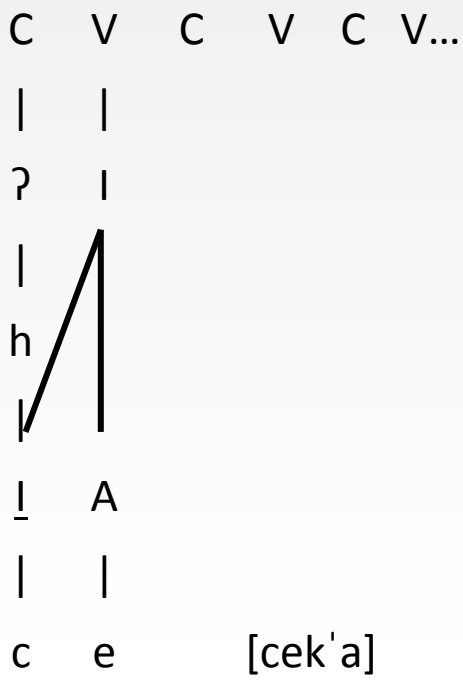


Representations

1) [cˈɛkə] "fold"

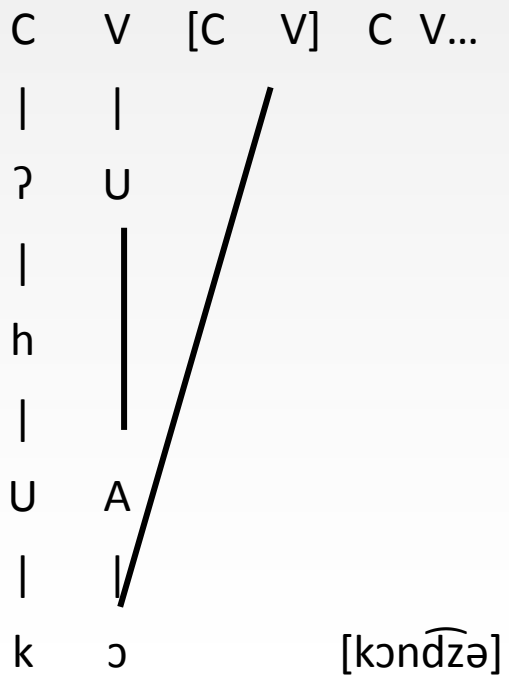


2) [cekˈa] "to fold"



Representations

1) [kˈondz͡ə] "tincture"



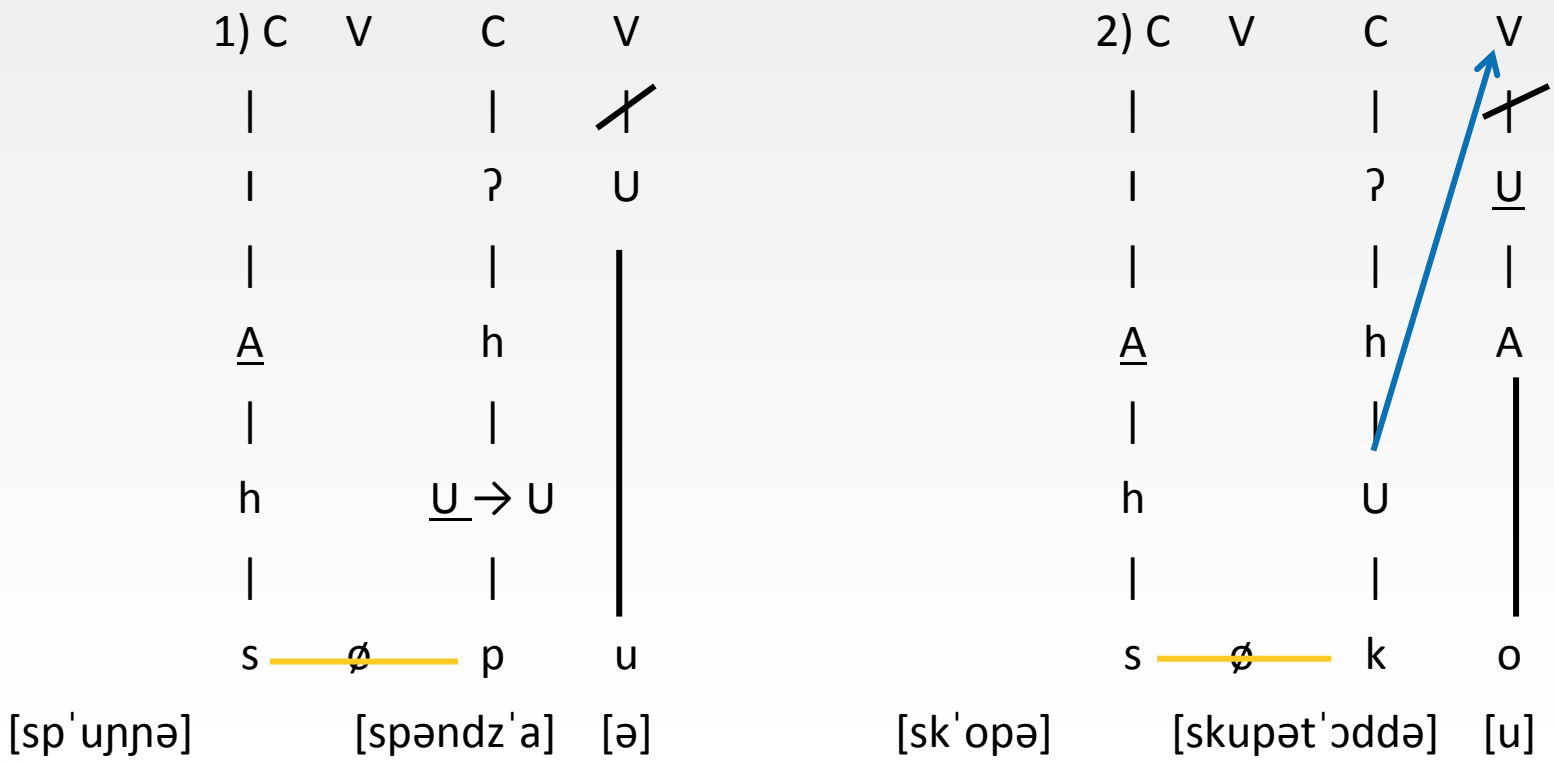
2) [kundz͡atˈorə] "tanner"

s+C = beheading

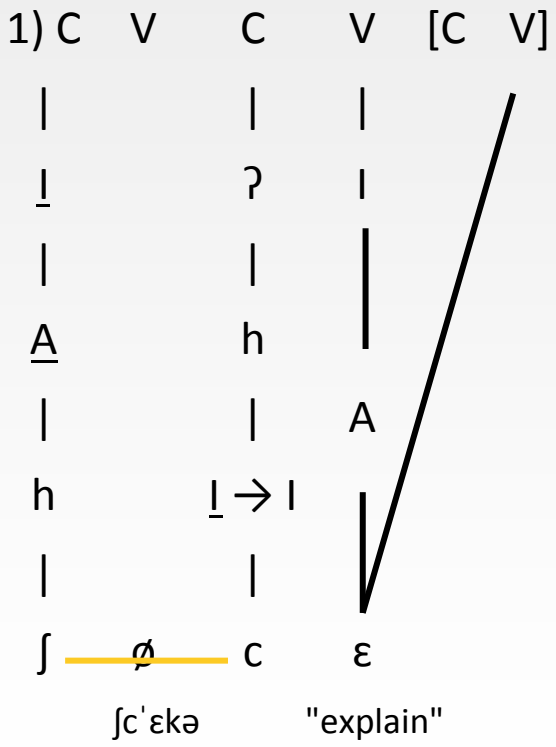
- If my idea is correct:
  - "S" removes the head of the labial and the palatal elements. "S" contains the head of the cluster [s] = I + A + h
  - "S" does not remove the head of the velars (these don't have a head)

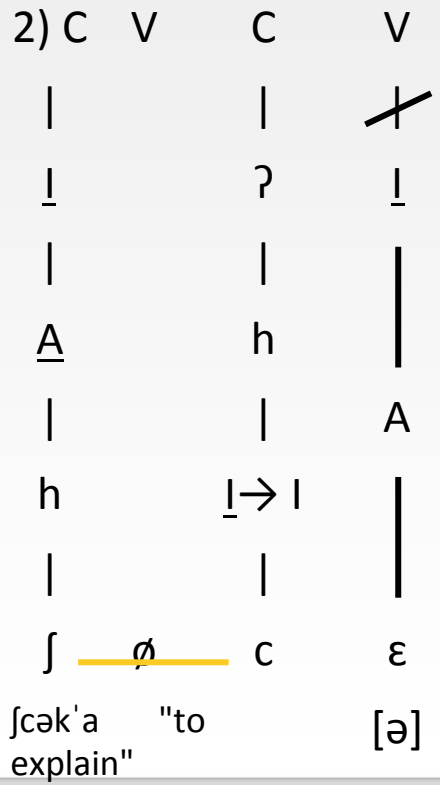
There is thus reduction but the consonant's element |U| colors the unstressed vowel.

Identity of s+C in Coratino



Identity of s+C in Coratino





Conclusion and results

- My new analysis follows the reasoning of the first one which claims that a vowel that branches is fully realized, but it did not take into account the head elements vs non-head elements.
- A vowel that does not branch is not linked to the X unit = reduction to schwa.
- It explains the peculiarity of the vowels (ɔ → o, o → u, ɛ → e)
- It allows to account for the unstressed vowel reduction when the "s+C" cluster precedes it.
- I also propose a new identity for the "s+C" cluster.

Syllabic identity of "s+C"

The literature proposes different syllabic identities for S+C , three approaches to the "s+C":

- *Extrasyllabic* cf. Halle & Vergnaud (1980), Levin (1985), Hall (1992, 74ss, 200 : 247), Giegerich (1992), Wiere (1998), Ewen & Hulst (2001 : 136ff)
- *Affricate* cf. Selkirk (1982 : 346ff), Carr (1993 : 212), Wiese (1996 : 42ff), Weiger (1994 : 165ff)
- *S+C = coda-onset sequence* cf. Kaye (1992)

Merci