

## Day 3: “Phonological decomposition of inflectional markers”

### Case study 1: The Italian definite article

(This work has been published as N. Faust, N. Lampitelli and Ulfsgjorninn, S. 2018 Articles of Italian Unite! Italian definite articles without allomorphy. Canadian Journal of Linguistics, pp. 1-28.)

#### 1. The Italian definite article: a well-known case of allomorphy

##### (1) Basic facts

	singular	plural		Environment
a.	<div> <div>i</div> <div>l</div> </div> sakko <div> <div>l</div> <div>o</div> </div> ska:fo	<div> <div>λ</div> <div>i</div> </div> sakki <div> <div>λ</div> <div>i</div> </div> ska:fi	‘the bag’ ‘the hull’	— CV — CCV
b.	<div> <div>l</div> <div>a</div> </div> rɔ:za <div> <div>l</div> <div>a</div> </div> skatola	<div> <div>l</div> <div>e</div> </div> rɔ:ze <div> <div>l</div> <div>e</div> </div> skatole	‘the rose’ ‘the box’	— CV — CCV

##### (2) Phonologically-conditioned allomorphy:

###### a. singular

/def, sg/  $\begin{cases} \rightarrow [lo] / \_\_C_1C_2 \text{ (except when } C_2=\text{liquid)} \\ \rightarrow [il] / \text{elsewhere} \end{cases}$

[l] is stable  
[o]~∅ alternation  
[i]~∅ alternation

###### b. plural

/def, pl/  $\begin{cases} \rightarrow [\lambda i] / \_\_C_1C_2 \text{ (except when } C_2=\text{liquid)} \\ \rightarrow [i] / \text{elsewhere} \end{cases}$

[i] is stable  
[λ]~∅ alternation

- Allomorphs are too similar to posit two lexical entries;

BUT

- Allomorph selection does not seem to be optimizing.

- ⇒ Why is [il] preferred in the singular before a consonant, where it introduces a coda?
- ⇒ Why is an onsetless syllable [i] preferred in the plural at all?
- ⇒ Why does the allomorph with the onset [λ] co-occur with the coda in the plural?

#### Claim

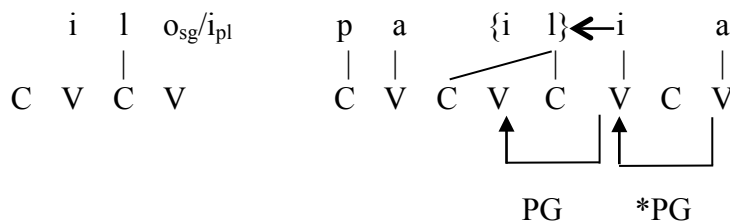
It is possible to derive **all** realizations from one underlying representation. This is not really allomorphy - two lexically-stored realizations of the same information - but rather just phonology.

**In anticipation of the analysis:**

- ⇒ [ʎi] is the only word in Italian to start with [ʎ]. Elsewhere, [ʎ] is only found intervocalically and realized as a geminate, cf. *figlio* [fiʎʎo] ‘son’, *paglia* [paʎʎa] ‘hay’
- ⇒ The structure of [ʎ] always involves two CV-units one with the palatalizer, the other with a palatal licenser.

**(3) Anticipating Representations (palatalization represented with {curly brackets})**

- a. [lo, il, l] / [i, ʎi]      b. [paʎʎa] ‘hay’ (palatalizer, palatalizing lic., two CV’s)



- ⇒ Gemination occurs when it can, namely when the structure is not word-initial.

**2. Theoretical framework****(4) CVCV phonology (Lowenstamm 1996, Scheer 2004): autosegmental framework**

- a. Strict alternation of non branching nuclei (C) and non branching onsets (V)  
b. The distribution of empty V-positions is constrained by the Empty Category Principle (ECP) and Proper Government (PG) (KLV 1985)

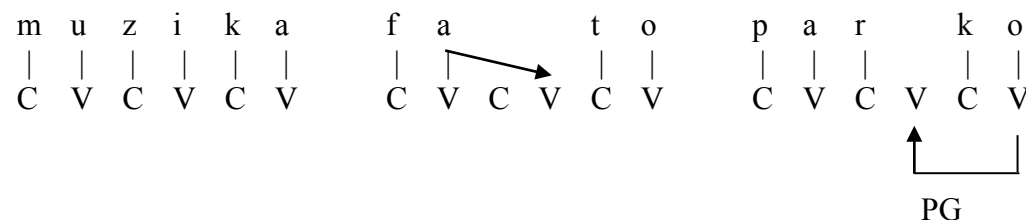
**(5) a. Empty Category Principle:**

An empty V position may be phonetically non-interpreted iff it is properly governed.

**b. Proper Government**

A properly governs B iff

- (i) A governs B from the right to the left.  
(ii) A is not properly governed.

**(6) Italian lexicon<sup>1</sup>**

[muzika] ‘music’

[fa:to] ‘fate’

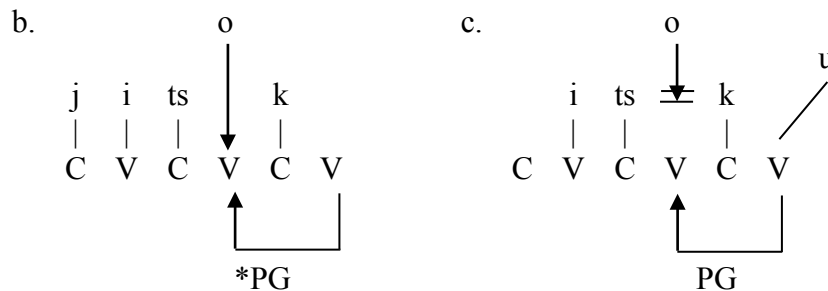
[parko] ‘park’

<sup>1</sup> We abstract away from the (possible) templatic realization of stress advocated by Larsen (1998), as this is not crucial for our analysis.

- In languages with C-final words, the final empty nucleus is allowed to remain unrealized by a parameter setting.

(7) Vowels that alternates with zero float, and are not realized when governed (Scheer 2004)

a. Hebrew: [jitsok] - [jitsku] ‘he will mold, they will mold’



⇒ If the slot is governed, it won't be realized (the vowel will remain afloat)

⇒ If the slot is ungoverned, it must be realized (the vowel will associate).

### 3. Allomorphy in the singular definite article: [il] ~ [lo] (and another one)

(8) Data (Nespor 1993: 222 ff)

[il]		[lo]		[l]	
a. il sakko	‘bag’	c. lo ska:fo	‘hull’	e. l azino	‘donkey’
il ka:ne	‘dog’	lo sta:djo	‘stadium’	l eza:me	‘exam’
il ba:ʃo	‘kiss’	lo zbaʕʕo	‘mistake’	l inkariko	‘task’
b. il tre:no	‘train’	d. lo strappo	‘rip’	l okkjo	‘eye’
il kjavistello	‘bolt’	lo skja:vo	‘slave’	l urto	‘strike’

(9) [lo] appears before other cases that require a coda

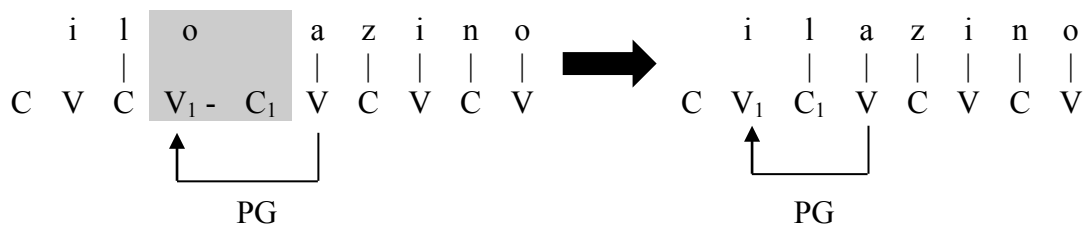
a. ɲo:mo	lo ɲɲo:mo	‘gnome’	c. lo pterodattilo	‘the pterodactyl’
ʃa:me	lo ʃʃa:me	‘swarm’	lo psikologo	‘analyst’
b. dzɔkkolo	lo dzdzokkolo	‘wooden shoe’	lo ksilofono	‘xylophone’
ʃa:me	lo ʃʃa:me	‘swarm’	lo khmer	‘Khmer’

These consonants are inherent geminates: /ɲ, ʕ, ts, dz, ʃ, (j)/

- Larsen (1998): /ilo/ in both cases.



(15) A sequence of vowels is truncated in favor of the associated vowel: [lazino] ‘the donkey’



#### 4. Allomorphy in the plural definite article

(16) Reminder: data

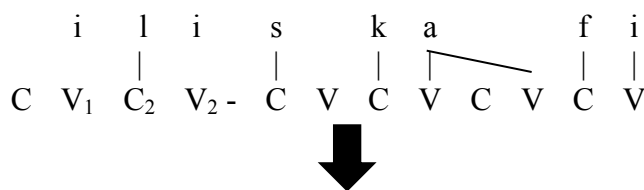
	[i]		[Λi]		[Λi]			
a.	i sakki	‘bag’	c.	Λi ska:fi	‘hulls’	e.	Λi ɲɲo:mi	‘gnomes’
	i ka:ni	‘dog’		Λi sta:dji	‘stadiums’		Λi ʃʃa:mi	‘swarms’
	i ba:ʃi	‘kiss’		Λi zbaΛi	‘mistakes’	f.	Λi zdɔkkoli	‘wooden shoes’
b.	i tre:ni	‘train’	d.	Λi strappi	‘scraps’	g.	Λi pterodattili	‘pterodactyls’
	i kjavistelli	‘bolts’		Λi skja:vi	‘slaves’		Λi psikologi	‘analysts’

- To continue the analogy with general  $\phi$ -makers, the representation of plural involves [-i], where the singular has -o; in other words,

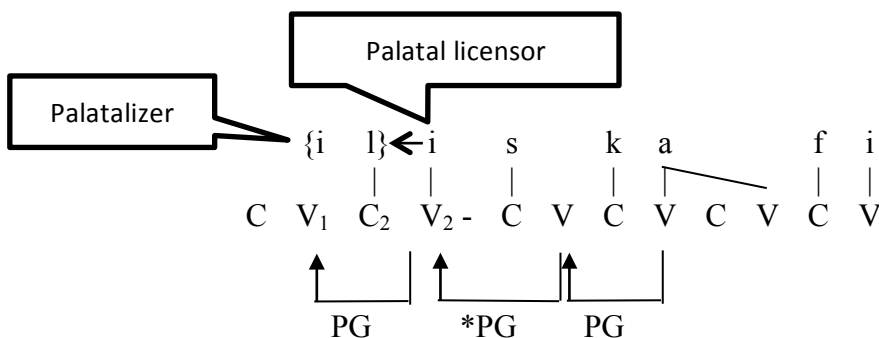
if [il] and [lo] are derived from /il+o<sub>sg</sub>/,  
then  
[i] and [Λi] must be derived from /il+i<sub>pl</sub>/

(17) Representations of [Λi ska:fi] ‘the hulls’

a. UR



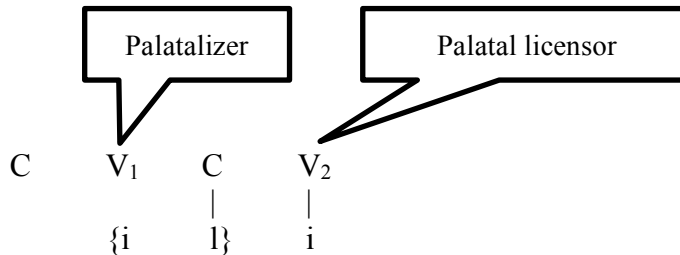
b. Phonology



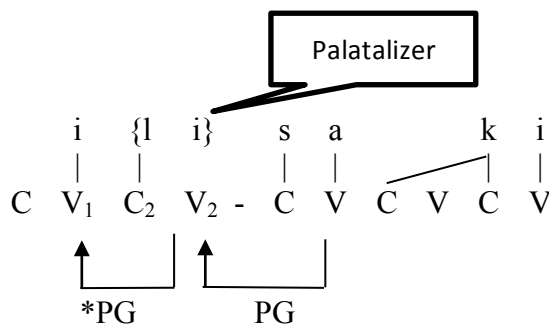
- Palatal [ $\lambda$ ] is not a primitive of Italian; its realization requires both a preceding **palatalizer** and a **palatal licenser**.
- The outcome of the derivation has an empty initial CV

## (18) Palatal Licensing

{i, l} must be licensed by a nucleus containing only /i/



## (19) Representations of [i sakki] ‘the bags’: there is a palatalizer, but no licenser



\*[i $\lambda$ \_ sakki] - No coda [ $\lambda$ ]

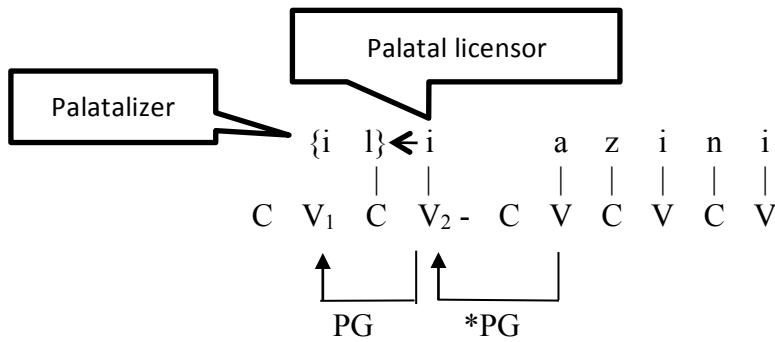
- The palatal structure in C<sub>2</sub> cannot be licensed by V<sub>2</sub>, therefore it is not interpreted.<sup>2</sup>
- In vowel-Initial stems, [ $\lambda$ i] is also used, e.g. [ $\lambda$ i-azini] ‘the donkeys’, \*[i-azini].

<sup>2</sup> Palatalization is an ongoing diachronic process in Standard Italian, some speakers have lexicalized [italia] and [olio] as: [ita $\lambda$ :a] and [o $\lambda$ :o]. We note that in these cases gemination always accompanies palatalization, as our structures predict: \*[ita $\lambda$ a].

The absence of visible palatal licenser in the IPA transcription of the outputs has no bearing on its phonological *or even its phonetic* presence. We note that the palatal release inherent of  $\lambda$  (and  $\eta$ , but not of  $\int$  or  $t_s$  for instance) is inbuilt in the IPA symbol. The palatal transition from  $\lambda$  to a following vowel could have been represented as [lj, l<sup>h</sup>, jl] etc... But this does not have a bearing on the phonology of [ $\lambda$ ], which always comes with a palatal licenser in Italian, even if this is masked by being released onto a non-palatal vowel: [vo $\lambda$  $\lambda$ a] *voglio* ‘will’.

The argument here is identical, for instance, to the burst of the stops. This is also inherently contained in their IPA symbols, and the IPA uses a diacritic to indicate the **absence** of the burst: [p̥]. It could easily have been the other way around, with that all stops marked with a noisy release symbol: [p°, t°].

(20) Government is not possible across empty, onsets (Charette 2003, Faust 2014, 2015)



[ʔi azini] 'the donkeys'

- The alternative, namely truncation as in the singular /ilo azino/ => [lazino], is impossible, since the [i] has to palatal-license the preceding /l/.

## 5. Beyond the masculine, beyond the article

- The feminine articles does not exhibit any type of allomorphy

(21) Feminine nouns

	sg.	pl.	
a.	la ro:za	le ro:ze	'rose'
	la pits:a	le pits:e	'pizza'
b.	la stra:da	le stra:de	'road'
	la sto:rja	le sto:rje	'story'

(22) Difference between masculine and feminine: floatingness

i	l	
C	V	C
Def.	φ-feat.	

vs.

i	l	a
C	V	C
Def.	φ-feat.	

[lo] ~ [il] ~ [l]

[la] (1<sup>st</sup> V always governed)

(23) A<sub>fm</sub>+I<sub>pl</sub> = feminine plural /-e/. Doesn't trigger palatalization.

i	l	A I
C	V	C
Def.	φ-feat.	

(Passino 2009, Lampitelli 2010)

[le] (1<sup>st</sup> V always governed)

- The pronoun [ʔi] 'masculine.dative' (singular or plural)
  - Is homophonous with plural article [ʔi]
  - does not show any allomorphy

- (24) The dative pronouns Italian of
- standard**
- Italian
- <sup>3</sup>

*ms/fm.sg* $\lambda$ i/le spif:ero 'I whisper to him/her' $\lambda$ i/le do 'I give to him/her' $\lambda$ i/le apro 'I open for him/her'Preverbal, unstressed.  
**Clitics.** No plural clitic*pl*

spif:ero loro 'I whisper to them'

do loro 'I give to them'

apro loro 'I open for them'

Postverbal, stressed,  
**not a clitic.**

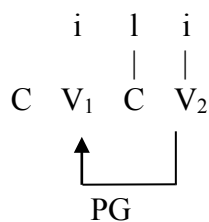
- However, in many varieties of **Spoken** Italian, there *is* a plural clitic: **[ $\lambda$ i] is invariable for any gender/number.**

- (25) Questions

Q1. Given the homophony with plural [ $\lambda$ i], why no allomorphy?

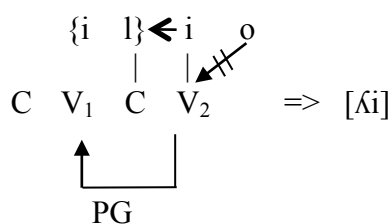
Q2. What happened on the way from standard to spoken?

- (26) Dative marker is
- lexically associated**
- , will always palatalize, no allomorphy

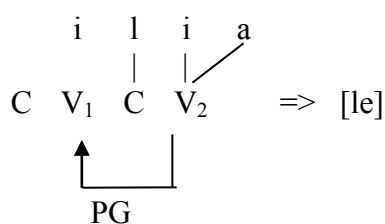


- Now recall that masculine = floating /o/; feminine = associated /a/; plural /i/

- (27) Ms.SG: floating /o/ cannot combine with dative /i/.



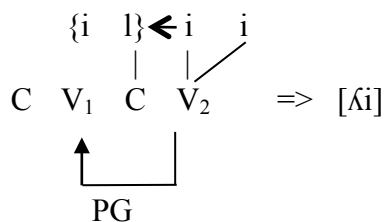
- (28) FM.SG (ONLY IN STANDARD) Non-floating feminine /a/ combines with dative /i/; resulting [e] cannot palatal license



<sup>3</sup> As any standard variety, when it is spoken there is much variation. Several speakers introduce plural clitics into Standard Spoken Italian by generalizing both *li* and *le* to their respective plurals.



(29) WHAT A PLURAL CLITIC WOULD LOOK LIKE: pl /i/ combines dative /i/, no surface difference



▪ The non-combinability of floating masculine /o/ with dative /i/ leads to the effective absence of **any** overt  $\phi$  marking on the dative masculine.

▪ In the **spoken** variety, this was taken at face value and reanalyzed as the **incompatibility of the dative marker in general with any realization of  $\phi$  features**. As a result, the feminine form was lost.

(30) Questions **and** answers

Q1. Given the homophony, why no allomorphy?

A1. Dative /i/ lexically associated.

Q2. What happened on the way from standard to spoken?

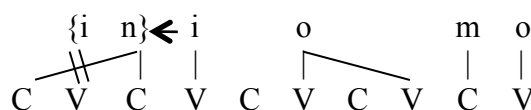
A2. The unrealized floating masculine and plural markers were reanalyzed as no marking; lead to loss of any marking.

▪ All of this follows from assumptions that were independently required in the analysis of the articles!!<sup>4</sup>

## 6. Additional issues

(31) Similar representation for other palatals<sup>5</sup>:

a. Potential Initial palatal geminate [no:mo]



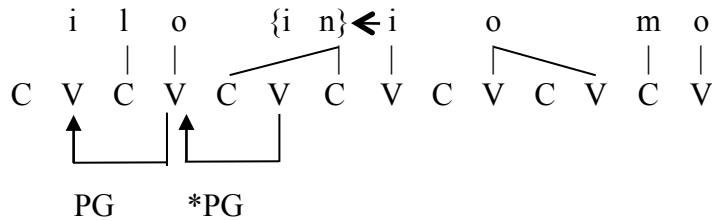
<sup>4</sup> To add to our argument, the account can easily be extended to the accusative pronominal clitics *lo*, *la*, *li*, *le*: these are one CV long with only /l/ attached to the C-slot. The rest of the realizations follow unproblematically.

<sup>5</sup> Italian palatalization is a complex phenomenon, which cannot be addressed here in a satisfactory fashion. For the present purpose, note that the feminine plural [e] never triggers velar palatalization in nouns and adjectives, whereas masculine plural [i] may trigger palatalization (although not always: the exact distribution of this phenomenon is irrelevant here, see Giavazzi 2008, Krämer 2009 for recent analyses.)

(i)	sg.	pl.	
a.	kómiko	kómitʃi	‘comic.M’
b.	kómika	kómike	‘comic.F’
c.	antí:ko	antí:ki	‘antique.M’
d.	antí:ka	antí:ke	‘antique.F’

For completeness, we note that velar palatalization also occurs in verbs, where its distribution is unlike in nouns and adjectives. Indeed, in the second conjugation the stem is palatalized when the inflectional ending begins with either [i] or [e], for example [vinʃ-ere] ‘to win’: [vink-o] 1sg, [vinʃ-i] 2sg, [vinʃ-e] 3sg, etc. Conversely, in the first conjugation, palatalization never occurs: [paka:re] ‘to calm’, [pa:k-o] 1sg, [pa:k-i] 2sg, [pa:k-a] 3sg, etc.

## b. Potential Initial palatal geminate realized [loppo:mo]

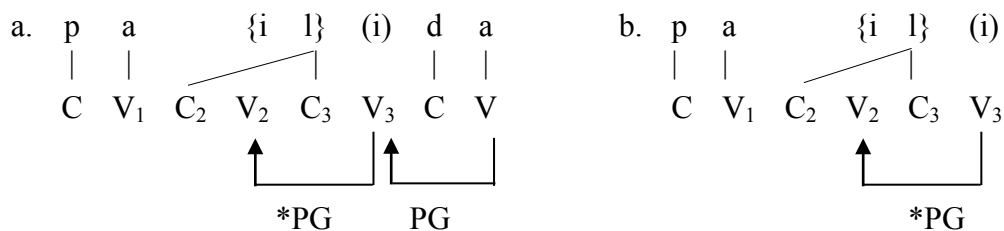


▪ **An advantage:** As in the case of /iʎ/ => [i] in (17) above, our representation of the inherent palatal geminates explains why in Standard Italian they are forbidden in coda position and word-finally; the palatal licenser following the palatalized consonant must be associated to its own V-slot.

## (32) Restriction of palatalized codas

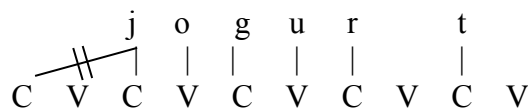
[sol]	‘sun’	*[soʎ]
[bonton]	‘good manners’	*[bontɔn]
[gas]	‘gas’	*[gaʎ]
[kolto]	‘educated’	*[koʎto]
[punto]	‘point’	*[puɲto]
[kɔsta]	‘coast’	*[kɔʃta]

## (33) Illicit coda palatals in Standard Italian

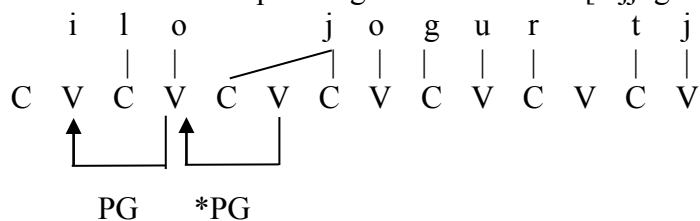


## (34) Initial /j/ is always geminated

## a. Potential Initial palatal geminate [ˈjogurt]



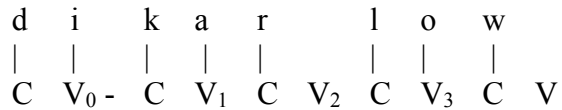
## b. Potential Initial palatal geminate realized [lojjogurt]





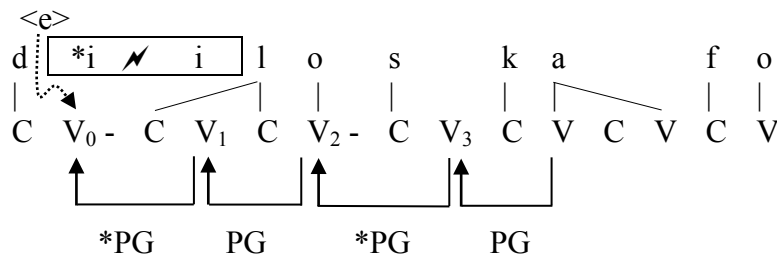
- *di* does not trigger raddoppiamento fonosintattico [di kárlo] ‘Carlo’s’, \*[di kkárlo]. Consequently, its UR involves a single CV (Passino 2013:335-ff.).

(39) [di kárlo] ‘Carlo’s’

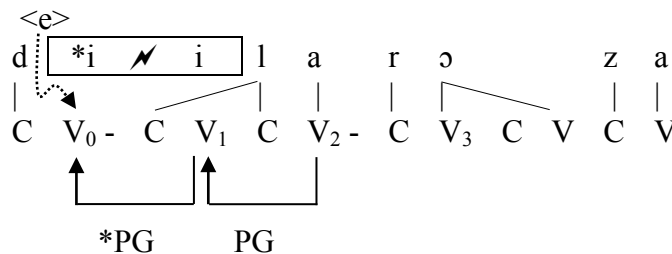


- When followed by the definite article, if our proposal is correct, gemination is only expected.
- The same holds for the feminine form, which up until now presented no evidence for CV<sub>1</sub> in the article.

(40) [dello ska:fo] ‘of the skull’

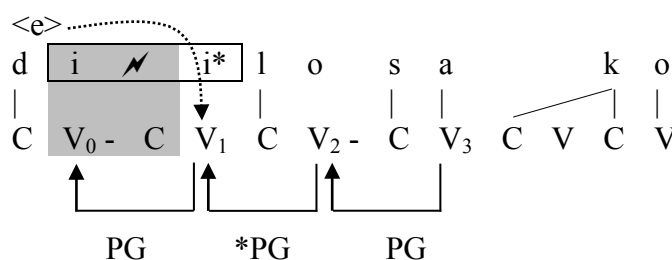


(41) [della rɔ:za] ‘of the rose’



- Our proposal can even motivate the appearance of [e], rather than [i], in [dello], [della]: the /i/ of the preposition creates an OCP violation with that of the article.
- As a result, an epenthetic <e> is inserted in V<sub>0</sub>.
- In [del], because V<sub>1</sub> is ungoverned, epenthesis will occur there, and the sequence V<sub>0</sub>C will be truncated:

(42) [del sakko] ‘of the bag’



- By simply extending the analysis of previous work, we've motivated the alternations in the form of prepositions before articles without reference to allomorphy.
- The inclusion of both CV<sub>1</sub> and the floating /i/ in the feminine article is now supported.
- The only price to pay is epenthetic <e> (pace Repetti 2012). But this idea is motivated independently: i. [e] is the vowel of hesitation in Italian; ii. [e] is inserted in loans ending in a consonant [il golle]; and iii. /in\_+il/ => [nel].

## 8. Conclusion

- We have reduced the allomorphy to one underlying representation in both singular and plural. Rather than being ad-hoc, our analysis provides insight into other aspects of the language, such as geminate distribution and pronominal clitics.
- The tools that were used and their motivation:
  - 1) Government: an entire literature
  - 2) Some palatals as geminates: intervocalic distribution.
  - 3) The view of two underlying /i/'s: the first is a palatalizer, the second a palatal licenser. That both must be present for the palatalized consonant to appear is a language-specific requirement.

### Take-home message

There is no allomorphy in the Italian article. Before one opts for the allomorphic view, it is important to consider sophisticated autosegmental representations and well-formedness conditions, rather than letter-based representations.

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