

√, *Th, n* and *num/K* in Romance nouns: a cross-linguistic account

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*“Totum vero quod in Europa restat ab istis, tertium tenuit ydioma, licet nunc tripharium videatur:
nam alii oc, alii oil, alii si affirmando locuntur, ut puta Yspani, Franci et Latini”*
Dante Alighieri, *De vulgari eloquentia*, I.8,6.

1. Introduction

Preliminaries

I assume the well known idea that Romance nouns derive diachronically from LA¹ ACC nouns (cf. Meyer-Lübke 1974).

(1) Singular Latin & Romance nouns

LA	IT	PO	SP	RU	FR
NOM <i>pons</i>	*	*	*	*	[põ]
ACC <i>pontem</i>	[ponte]	[põntə]	[pwente]	[pod]	[põ]

This general pattern accounts for an overwhelming number of singular nouns in Romance.

(2) Plural Latin & Romance nouns

LA	IT	PO	SP	RU	FR
NOM <i>lupī</i>	[lupi]	*	*	[lup ⁱ]	[lu]
ACC <i>lupōs</i>	*	[lob ^u]	[lobos]	*	[lu]

In contrast, plural forms display a well known case of isogloss:

- Western Romance (SP, PO, etc..) pluralizes using /s/ (and thus continuing ACC case);
- Eastern Romance (IT, RU, etc..) pluralizes using /i/ (and thus continuing NOM case).

Theoretical background

The general framework

Words are built by Syntax (cf. Marantz 1995, 1997, 2001). But not all morphemes relevant to pronunciation are present in Syntax prior to Spell-Out (cf. Embick & Noyer 2001).

The Syntax-Phonology interface

A phonological tier (CVCV..) is associated to syntactic terminals (Lowenstamm 2008). Bendjaballah & Haiden (2008) propose a typology of Spell-Out:

(3)	a. segmental (floating)	b. skeletal	c. segmental & skeletal	d. silence
	<i>ka</i>		<i>ka</i>	
		CV	CV	

¹ I use the following abbreviations: Latin LA; Italian IT; Portuguese PO; Spanish SP; Rumanian RU; French FR; nominative NOM; genitive GEN; dative DAT; accusative ACC; vocative VOC and ablative ABL.

Goals of the paper

- To demonstrate that at least four functional categories are needed to account for NP's
- To show how parameters on Spell-Out account for cross-linguistic diversity.
- To propose an explanation for the morphological isogloss.

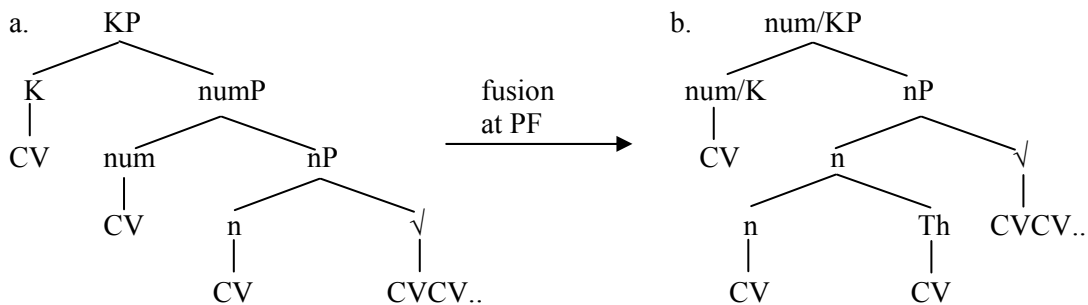
2. Latin

Latin nouns

	declension I		declension II		declension III			
#	sg.	pl.	sg.	pl.	sg.	sg.	sg.	sg.
gender	F	F	M	M	N	F	M	N
gloss	'rose'	'roses'	'wolf'	'wolves'	'egg'	'peace'	'leader'	'body'
NOM	<i>rosa</i>	<i>rosae</i>	<i>lupus</i>	<i>lupī</i>	<i>ovum</i>	<i>pax</i>	<i>dux</i>	<i>corpus</i>
GEN	<i>rosae</i>	<i>rosārum</i>	<i>lupī</i>	<i>lupōrum</i>	<i>ovī</i>	<i>pacis</i>	<i>ducis</i>	<i>corporis</i>
DAT	<i>rosa</i>	<i>rosīs</i>	<i>lupō</i>	<i>lupīs</i>	<i>ovō</i>	<i>pacī</i>	<i>ducī</i>	<i>corporī</i>
ACC	<i>rosam</i>	<i>rosās</i>	<i>lupum</i>	<i>lupōs</i>	<i>ovum</i>	<i>pacem</i>	<i>ducem</i>	<i>corpus</i>
VOC	<i>rosa</i>	<i>rosae</i>	<i>lupe</i>	<i>lupī</i>	<i>ovum</i>	<i>pax</i>	<i>dux</i>	<i>corpus</i>
ABL	<i>rosā</i>	<i>rosīs</i>	<i>lupō</i>	<i>lupīs</i>	<i>ovō</i>	<i>pace</i>	<i>duce</i>	<i>corpori</i>

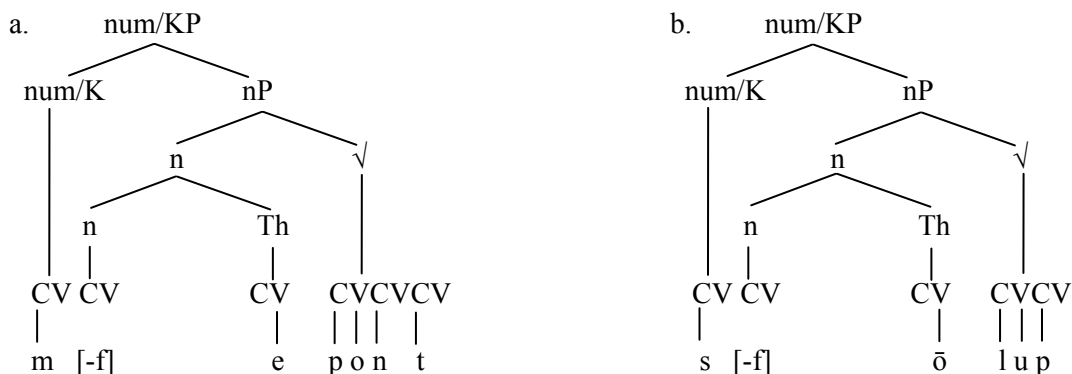
- There is gender predictability for declensions I and II, but not for declension III.
- Number and Case are morphologically realized by a single suffix.

(4) Latin nouns structure

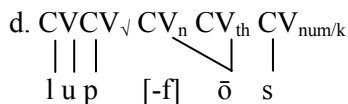
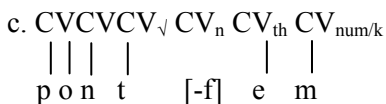


(5) The representation of *pontem* 'bridge' and *lupōs* 'wolves'

Syntactic structures



Linearization



- A projection KP for Case (Bittner & Hale 1996)
- A projection numP for number.
- Operations at PF: (i) fusion between *K* and num², and (ii) *Th* is required as adjunct to *n*³.

- Internal merger applies in order to linearize the morphemes.
- *n*^o only bears the gender feature.
- The shape of the root is lexical, thus the length of the template depends on the number of segment the root is made of⁴.

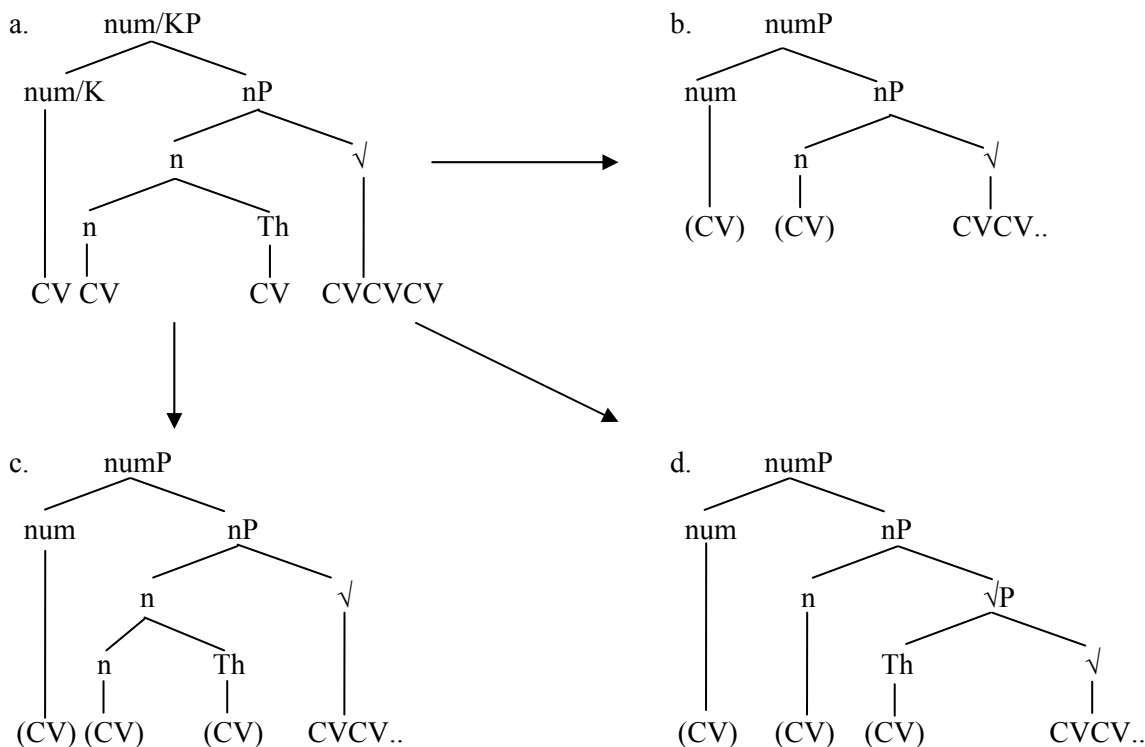
3. Proposal

Morphological change (diachronic differences)

The morphological change occurred from Latin to Romance nouns is the combination of:

- Phrase or head loss (morpho-syntactic change).
- CV units loss⁵ (morpho-phonological change).

(6) A typology of morphological change



² Cf. Calabrese (1998).

³ Embick & Noyer (2006:305-310) propose an adjoined *Th* to *v*^o and to *n*^o to account for Theme vowel in both Latin verbs and noun (called “Ornamental Morphology”): in their account, too, *n*^o is empty. In addition, Oltra-Massuet (2000) proposes an adjoined *Th*, to all major categories in Catalan.

⁴ Faust & Lampitelli (2009) discuss the issue of the shape of roots in Modern Hebrew and in Italian.

⁵ This idea has been first developed in Lampitelli (2008a, 2008b).

- Parentheses point to the fact that language-specific parameters allow or disallow the CV unit loss.
- As far as case is concerned, a fourth theoretical configuration is possible, in which K° still holds: I won't investigate this path in this paper⁶.

Synchronic differences

The cross-linguistic difference in Romance stems from the parametric interpretation of the Spell-Out of each terminal node.

4. Romance nouns

French

(7) French nouns

number	sg.	pl.	sg.	pl.	sg.	pl.	sg.	pl.
gender	F	F	M	M	F	F	M	M
V#	[ru] 'wheel'	[ru]	[lu] 'wolf'	[lu]	[ami] '(she) friend'	[ami]	[ami] '(he) friend'	[ami]
C#	[pil] 'battery'	[pil]	[fil] 'wire'	[fil]	[fak] 'university'	[fak]	[pik] 'peak'	[pik]

- Nouns in (7) are morphologically invariable in number⁷.
- Gender is lowly predictable⁸.
- Comparing to Latin nouns, strong phonetic erosion occurred.

Hypothesis

French has lost KP, Th° and all CV units but the ones still associated to the root (cf. 6.b).

- Notice that in the *liaison* contexts, a morpheme [z] appears to be the plural marking⁹.

(8) *Liaison* contexts

a.	<i>un enfant</i> a kid 'a kid'	b.	<i>des petit[z] enfants</i> Det little kids '(some) little kids'
c.	[lami] <i>italien</i> the.friend Italian 'the Italian friend'	d.	[lez.amiz.it] <i>aliens</i> the.friends.Italian 'the Italian friends'

⁶ RU displays morphological case on nouns: it may be the case that the projection KP must be kept into the structure to account for RU nouns.

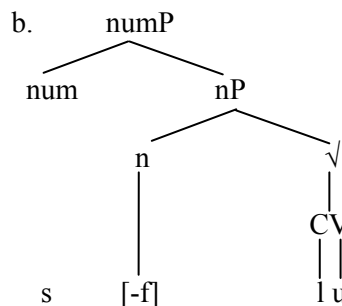
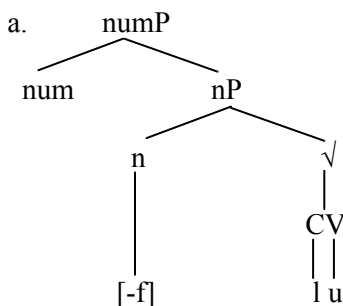
⁷ There are some exceptions to this general pattern: nouns such as *cheval* 'horse' have a distinct form for plural *chevaux* 'horses'.

⁸ There are some exceptions: for instance, the nouns ending in [ø], [o], [ɛ] and [ɛ̃] are all masculine, as noted by Lowenstamm (2008).

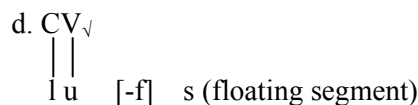
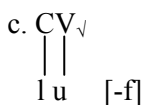
⁹ The literature on this topic is very vast. Among the most important, see Dell (1973).

(9) French nouns

Syntactic structures



Linearization



- Spell-out in French:
 - a. $\checkmark \rightarrow$ segmental & skeletal
 - b. $n^\circ \rightarrow$ silence
 - c. $num^\circ \rightarrow$ silence (sg.) and segmental (pl.)

Spanish

(10) Spanish nouns

number	sg.	pl.	sg.	pl.	sg.	pl.	sg.	pl.
gender	F	F	M	M	F	F	M	M
V#	[rweda] 'wheel'	[rwedas]	[lobo] 'wolf'	[lobos]	[fwente] 'source'	[fwentes]	[pwente] 'bridge'	[pwentes]
C#	[mar] 'sea'	[mares]	[pan] 'bread'	[panes]	[paθ] 'peace'	*	[sal] 'salt'	*

- The nouns are *always* morphologically marked in plural by [s]¹⁰.
- Gender is highly predictable if the noun ends in a vowel¹¹.
- A noun can end in a single C [+coronal] ([r], [l], [n], [θ], [s], [ð]).

(11) Roots ending in C [+coronal]

number	sg.	pl.	sg.	pl.	sg.	pl.	sg.	pl.
gender	M	M	F	F	M	M	M	M
[+cor]#	[faro] 'lighthouse'	[faros]	[rana] 'frog'	[ranas]	[laðo] 'side'	[laðos]	[palo] 'stick'	[palos]

¹⁰ The same generalization applies to Portuguese and Catalan, too.

¹¹ Harris (1992) calls these vowels 'word class markers'.

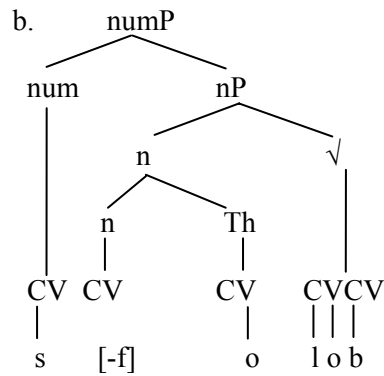
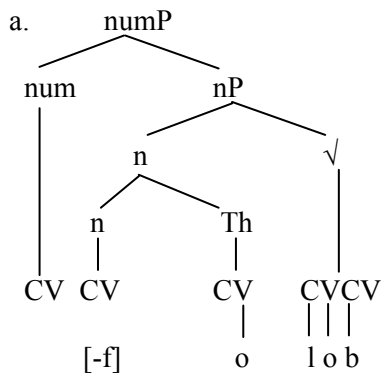
- Notice that nouns ending in **C [+coronal] + [e]** do not exist in Spanish.
- Data in (11) show that some roots ending in C [+coronal] *do* allow the final vowel.

Hypothesis

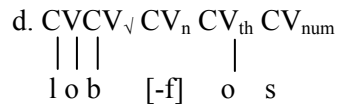
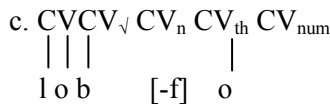
Spanish has lost KP and re-interpreted *Th* as an adjunct (not all the nouns display it).

(12) Spanish nouns (with Th)

Syntactic structures

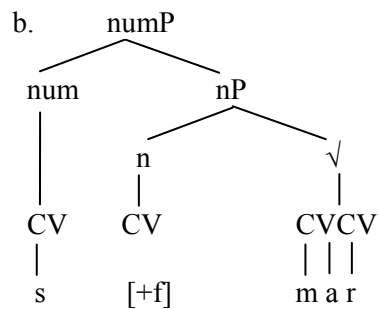
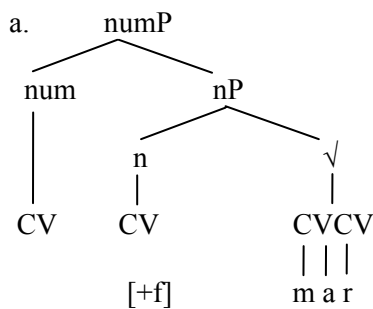


Linearization

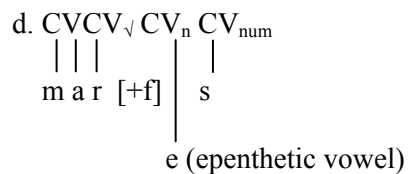
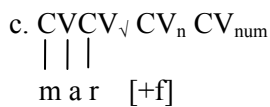


(13) Spanish nouns (without Th)

Syntactic structures



Linearization



- Spell-out in Spanish:
 - √ → segmental & skeletal.
 - n° → skeletal.
 - Th° → segmental & skeletal or silence.
 - num° → skeletal (sg.) or segmental & skeletal (pl.).

Italian

(13) Italian nouns

number	sg.	pl.	sg.	pl.	sg.	pl.	sg.	pl.
gender	F	F	M	M	F	F	M	M
V#	[rwota] 'wheel'	[rwote]	[lupo] 'wolf'	[lupi]	[fonte] 'source'	[fonti]	[ponte] 'bridge'	[ponti]
C#	*	*	*	*	*	*	*	*

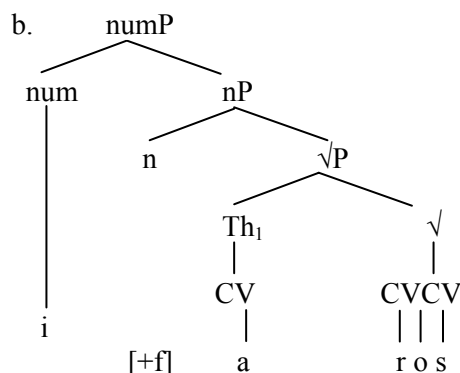
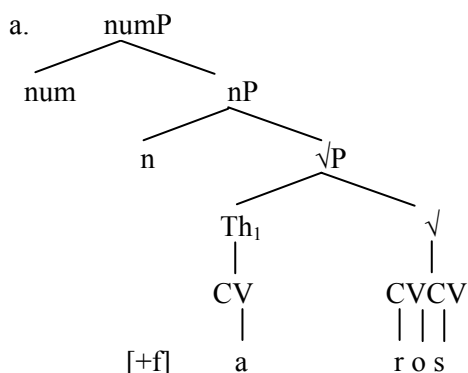
- Nouns are *always* morphologically marked by a final vowel.
- Gender is predictable if the noun ends in [a] or [o].
- C# are not allowed except in loanwords.

Hypothesis

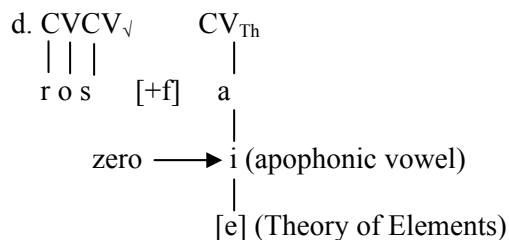
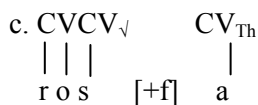
Italian has lost KP and reinterpreted Th° as an independent projection ThP between the root and nP. Moreover, it has lost the CV units associated to num° and n° ¹².

(14) Italian nouns structure

Syntactic structures



Linearization



- Th° bears lexical information associated to the quality of the final vowel.
- Spell-out in Italian:
 - $\sqrt{}$ → segmental & skeletal.
 - n° → silence (only a feature).
 - Th° → segmental & skeletal.
 - num° → silence (sg.) or segmental (pl.).

¹² This analysis has been developed in Lampitelli (to appear) in a much more detailed way.

- Apophonic path¹³: zero → i → a → u → u.
- The Theory of Elements¹⁴ proposes an analysis of vowels in matrix Elements: /A/, /I/ and /U/: in these terms, [e] = /A.I/.

French plural vs. Italian plural

Both FR and IT lack a CV in their *num*^o: this should correspond to a null plural in both languages. But this is not the case as:

- FR has a floating /s/ pl. morpheme;
- IT has a floating /i/ pl. morpheme.

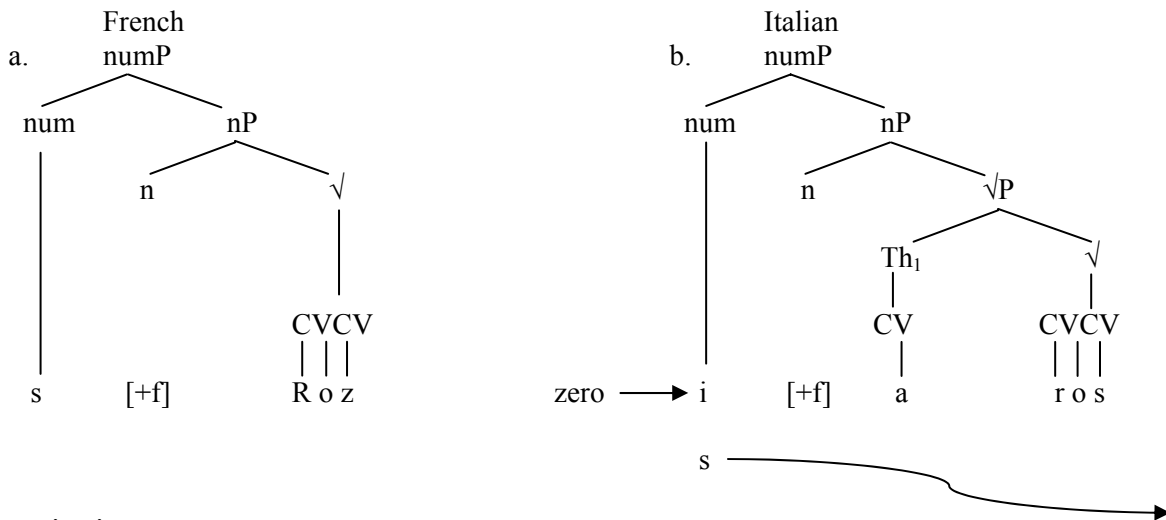
Proposal

The difference is caused by the status of *Th*^o:

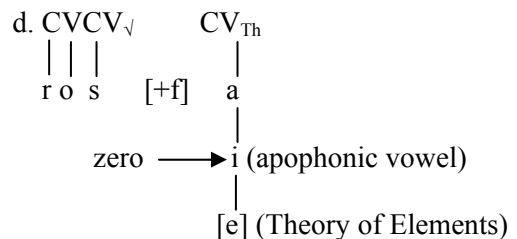
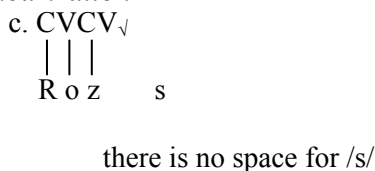
- FR lost *Th*^o (cf. 9): thus no information about theme vowel is bore anymore. There is no available C-slot for plural morpheme /s/.
- IT still has *Th*^o (cf. 14): as a consequence, theme vowels are spelled-out. But there's no more place for a consonantal plural /s/ (cf. 15.d). The apophony is the only strategy to occupy the CV associated to *Th*^o.

(15) Plural isogloss

Syntactic structures



Linearization



¹³ See Guerssel & Lowenstamm (1993).

¹⁴ See Kaye, Lowenstamm & Vergnaud (1985 & 1990).

5. Cross-linguistic predictions

The structures in (6) make the following three cross-linguistics predictions:

- 1) The position of Th° w.r.t. the structure entails different word final syllables.
- 2) A CV unit associated to num° entails no restrictions on plural marking.
- 3) The presence of a bigger number of CV-units associated to functional categories entails a rich suffixal morphology.

Prediction 1

SP and IT both have Th° : its presence entails a vocalic ending on nouns.

- If Th° is an adjunct, as in SP, it can be absent: this means that a noun can end in C.
- If Th° is lexically present within \sqrt{P} , as in IT, it cannot be absent, and then nouns will strictly end in a V.
- If the language lacks Th° , as FR does, then the final segment on nouns depends on root segments (thus totally unpredictable).

(16) Final syllable on Romance nouns

	IT		SP		FR	
	always Th°		optional Th°		never Th°	
a. CV#	[roza]	‘rose’	[rosa]	‘rose’	[lu]	‘wolf’
b. C#	*		[sintesis]	‘synthesis’	[Roz]	‘rose’

Prediction 2

SP has a CV associated to num° : this entails that the plural morpheme /s/ can be associated to any noun having the projection numP. In contrast, IT lacks such a unit, and then only nouns having a lexical Th° can pluralize.

(17) Pluralizing in SP and IT

	IT		SP	
	no CV in num°		a CV in num°	
	sg.	pl.	sg.	pl.
a. core nouns	[roza] ‘rose’	[roze]	[rosa] ‘rose’	[rosas]
b. loanwords	[lider] ‘leader’	[lider] [*lideri]	[lider] ‘leader’	[lideres]
c. oxyton words	[re] ‘king’	[re] [*ri] or [*rei]	[pje] ‘foot’	[pjes]
d. abridged words	[moto]cioletta ‘moto’	[moto] [*moti]	[motos] ‘moto’	

- In IT, plural depends on Th° and its CV, and then it has lexical restrictions.
- In SP, plural depends on the CV in num° , that’s why it has no restrictions.

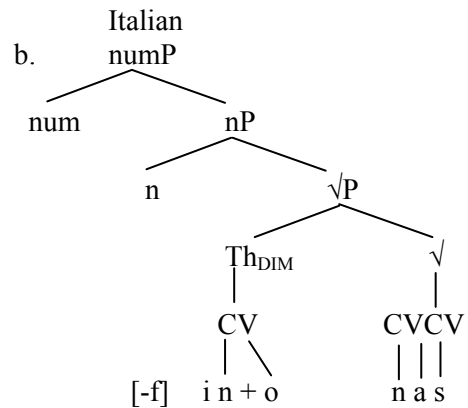
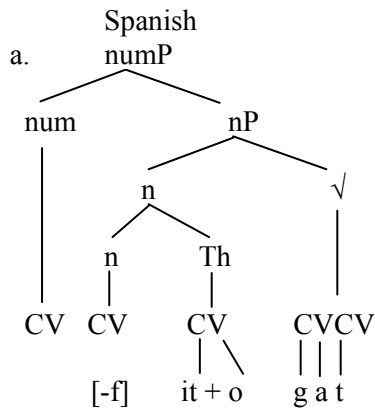
Prediction 3

The increasing number of CV-units associated to the terminals, points to a rich suffixal morphology.

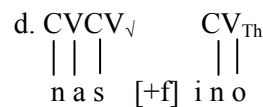
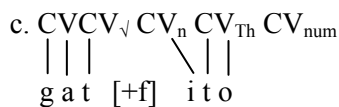
- In FR, none of the functional categories are provided with a CV.
- In contrast, IT and SP have structural positions for a rich suffixal morphology: Th° can be the site of realization of diminutivization or augmentativization in both SP and IT¹⁵.

(18) Diminutives in SP and IT

Syntactic Structures



Linearization



6. Conclusions

I showed that Romance noun structures share the same functional categories (num° , n° , Th° and $\sqrt{}$). In addition, Romance nouns can be derived by a unique structure which underlies Latin nouns.

- Within Romance, the difference is given by different types of Spell-Out of each terminal node.
- The observed plural isogloss is the consequence of the proposed architecture of nouns.
- Three cross-linguistic predictions on Romance nouns finally are borne out.

¹⁵ Lampitelli (To appear) and De Belder, Faust & Lampitelli (2009) propose a low diminutive/augmentative for Italian.

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