

Word-final schwa licensed by prosody and syntax: evidence from southern Italian dialects

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Abstract. Empirical evidence from dialects of northern Calabria and southern Basilicata challenges the generalization whereby in upper-southern Italian dialects, all final atonic vowels, with the only possible exception of *-/a/*, underwent a centralization which resulted in schwa. This paper shows that the overt articulation of schwa is only one of the two possible outcomes of the neutralization process which, crucially, can also result in the alternating deletion of the original vocalic segment. I will show that the alternation between schwa versus zero phoneme, far from being optional, is crucially tied to specific prosody of the utterance expressing, in turn, interrogative and exclamative modality with a pragmatically marked stance. After the assessment of the results of the instrumental acoustic evaluation of the prosodic features interacting with the insertion of schwa, the interplay between the phonological, syntactic and pragmatico-semantic domains will be discussed in the light of the assumptions of formal syntax on the information structure of the sentence. This contribution proves how novel data from Italo-Romance, in particular from the traditionally called ‘Area Lausberg’ (Lausberg 1939), provide more support to the reality of the phonology-syntax interface (Selkirk 1984, 2001, 2011).

1 Introduction

This paper deals with the phonetic realization of the word-final schwa in southern Italian dialects (SIDs). In these varieties final atonic vowels have undergone a centralization process which resulted in schwa. The only word-final atonic vowel that is variably left out from this process is *-/a/*. In particular, according to a traditional classification based on phonetic isoglosses across Italo-Romance, among southern Italian dialects placed north of the isogloss traced by the localities of Cetraro, Bisignano and Melissa (Rohlf 1969: I, 187) the only word-final unstressed

vowel is -[ə], namely the outcome of the process of centralisation of -/u/ -/i/. Arguably, the two underlying high vowels underwent centralization after being phonologically active in triggering metaphonic rising or metaphonic diphthongisation of the non-high tonic vowel. This is the case in the varieties of north-western Calabria (Silvestri 2009). Nowadays metaphonic vowels are the only phonetic means to convey morphological opposition in nouns (1a), adjectives (1b) and participles (1c):

- (1) S. Maria del Cedro-Cosenza
- a. [kwatra'ridɔə] ~ [kwatra'reɔɔə]
 boy.M.SG/PL girl.F.PL
 'boy/s, girls'
- b. ['bunə] ~ ['bɔnə]
 good.M.SG/PL good.F.PL
 'good'
- c. ['kuttə] ~ ['kɔttə]
 cooked.M.SG/PL cooked.F.PL
 'cooked'

Novel empirical evidence from northern Calabria and southern Basilicata challenges the *pan-schwa* outcome of the neutralization of word-final unstressed vowels. Namely, the centralization into schwa is only one of the two results of the neutralization process which, crucially, can also result in the deletion of the original word-final vowel (2b). Schwa can be deleted given any preceding consonant, regardless of length, whenever such consonant is not a liquid or a nasal (2a):

- (2) a. / ə / → < Ø > / [X __]
 [where X = C- and C- ≠ /l/ and /r/]
- b. ['pjattə] ~ ['pjattʰ] (Verbicaro-Cosenza)
 plate.MSG plate.MSG
 'plate'

The optionality depicted in (2b) is only apparent, as when target words occur in sentence-final position in prosodically and pragmatically marked utterances, i.e. exclamatives or interrogatives, schwa must be articulated, whereas zero morpheme is not possible. The relevant data have been collected *in loco* and represent a group of dialects of north-western Calabria, ie. Grisolia, Marcellina, Orsomarso, Santa Maria del Cedro, Verbicaro, all belonging to the micro-area called 'Alto Tirreno Cosentino'.

This contribution is organized as follows: after sketching the atonic vowel system of the north-western Calabrian dialects in comparison with the system found in a few other representative southern Italian dialects

(§2) and the mechanism of deletion of schwa (§3), the pragmatic and structural contexts in which deletion is blocked will be described (§4); after the exposition of the results of a first instrumental evaluation of the prosodic features interacting with the insertion of schwa (§5), the interplay between the phonological, syntactic and pragmatic-semantic domains will be discussed in the light of the formal assumptions of the phonology-syntax interface (§6).

2 Atonic final vowels in southern Italian dialects

According to traditional classifications, the different outcomes of the final atonic vowels contribute to distinguish the upper southern Italian dialects from the extreme southern Italian dialects. According to a rough but handy generalization, varieties spoken in Sicily, southern Calabria (south of the isogloss Cetraro-Bisignano-Melissa) and Salento (southern Apulia), which represent the group of the extreme southern Italian dialects (ESIDs), display a tripartite final atonic vowel system: / a i u / (see Table 1).

/e/ , /i/ > [i]		/a/ > [a]		/o/ , /u/ > [u]	
Italian	Sicilian	Italian	Sicilian	Italian	Sicilian
pensar[e] 'to think'	pinsar[i]	cas[a] 'house (FSG)'	cas[a]	figli[o] 'son'	figghj[u]
brutt[e]/[i] 'ugly' (FPL/MPL)	brutt[i] 'ugly' (MPL)	mamm[a] 'mom'	mamm[a]	pens[o] 'I think'	pens[u]

Table 1: Standard Italian vs ESIDs (Ragusa, Sicily)¹

The upper-southern Italian dialects (USIDs) exhibit a robust centralization of the final atonic vowels in schwa. Yet, sparse cases of retention of /-a/ are attested. Such /a/ might be phonetically reduced, like in the varieties of Campania (Table 2).

¹Henceforth, only the relevant phonetic segments will be transcribed in International Phonetic Alphabet (IPA). Full words or full sentences will be transcribed in IPA only if it serves the clarity of the argumentation.

/e i o u/ > [ə]		/a/ > [ə] / [ʌ]	
Italian	Frattamaggiore	Italian	Frattamaggiore
grand[e]/[i]	grann[ə]	bell[a]	bell[ə]/[ʌ]
'big' (FPL/MPL)	'big' (MSG + MPL + FPL)	'beautiful' (FSG)	'beautiful' (FSG)
prat[o]	prat[ə]	mamm[a]	mamm[ə]/[ʌ]
'grass' (MSG)	'grass' (MSG + PL)	'mom' (SG)	'mom' (SG)

Table 2: Standard Italian vs USIDS (Frattamaggiore)

3 Deletion and realization of schwa: a case study

In this section it will be proven that it is not accurate to claim that in USIDs the unstressed final vowel system is exhaustively represented by schwa and the possible retention of *-/a/*. Namely, the USIDs of north-western Calabria display an alternation between schwa and zero phoneme in word-final position. It is worth mentioning that the geo-linguistic strip encompassing northern Calabria and southern Basilicata is known to be a peculiar area of linguistic investigation due to the retention of archaic phonetic, morphological and syntactic features. To mention a few, dialects of the so-called 'Lausberg Area' (Lausberg 1939; Rohlfs 1972; Rensch 1973; Fanciullo 1988, 1997; Martino 1991; Romito et al. 1996, a.o.) display the Sardinian-like and the Romanian-like tonic vowel systems as well as the Latin consonantal verb endings for 2nd and 3rd singular person and, to a less extent, the 2nd plural. Also, they witness a prepositionless genitive construction which is the uninterrupted development from a genitival type already attested in Classical Latin (Silvestri 2013; 2016; to appear). These facts define the uniqueness of this area within the Italian peninsula and its similarity with some geographically unconnected Romance-speaking zones, such as Sardinia and Romania. The peculiar phonetic phenomenon described and discussed here adds to the relevance of such geo-linguistic area.

3.1 Phonetic conditions on the deletion of schwa

The starting point of our discussion is the development of all original final vowels in schwa, with the exception of *-/a/* (Table 3):

In the dialects of north-western Calabria, the realization of the final schwa undergoes a deletion when the preceding segment is a voiced or voiceless consonant, regardless of length. The sonorant consonants (liquids and nasals) are excluded from this set (Table 4). Moreover, it is worth anticipating that the acoustic analysis, the details of which will

	big		short	
	M	F	M	F
SG	'grannə	'granna	'kurtə	'kurta
PL		'grannə		'kurtə

Table 3: Final unstressed vowels in adjectives (Santa Maria del Cedro)

be discussed in (§5), reveals that an aspiration is realized by the speakers when no schwa occurs. Therefore, the phonetic opposition is better depicted as follows:

(3) $[-\text{ə}]$ versus $[-^{\text{h}} \emptyset]$

The target words taken into account are bisyllabic.

Short consonants			Long consonants		
$-\text{ə}/$	\emptyset		$-\text{ə}/$	\emptyset	
'pɪ:pə	'pɪ:p ^h	'peppers'	'vɪppə	'vɪpp ^h	'I drank'
			'babbə ²	'babbə	'idiot'
'mʊ:tə	'mʊ:t ^h	'mute'	'piəttə	'piətt ^h	'chest'
'pɛrdə	'pɛrd ^h	'to lose', 'I lose'	'bbɛdɔ	'bbɛdɔ ^h	'pretty'(F.PL)
'fuəkə	'fuək ^h	'fire'	'ʃkɔkkə	'ʃkɔkk ^h	'cheeks'
'pʊ:tsə	'pʊ:ts ^h	'wrist/s'	'vrattə	'vratt ^h	'arm/s'
'krʊ:tʃə	'krutʃ ^h	'crosses'	'mpittʃə	'mpittʃ ^h	'nuisance'
			'kaddʒə	'kaddʒ ^h	'cages'
			'ŋkaccə	'ŋkacc ^h	'tangle'
'ma:ʒə	'maj	'May'	'majʃə	'majʃ ^h	'jumpers'
'fa:və	'fa:v ^h	'favas'			
			'baffə	'baff ^h	'mustaches'
			'kaffə	'kaff ^h	'trunks'
'fʊ:sə	'fʊ:s ^h	'spindle'	'uəssə	'uəss ^h	'bone'
			'çʊççə	'çʊçç ^{(h)3}	'I blow'

Table 4: Schwa vs zero phoneme alternation in the dialects of north-western Calabria

When the segment preceding the schwa is the glide /j/ (see ['ma:ʒə] 'May'), the deletion of schwa triggers a slight desonorization of [j]. A

²Short /b/, /dʒ/, /c/ are not attested in these varieties.

³It is impossible to instrumentally know whether an aspirate is produced following the palatal fricative.

similar process is detectable if the preceding segment is a liquid or nasal consonant. In these cases, the deletion of schwa triggers more complex phonetic processes. If the final schwa following short or long *-l/-* and *-r/-* undergoes deletion, the aspiration which usually results from this process affects the sonority of the liquid consonants. In a phonetic context involving the liquids no aspiration is realized and the intrinsic sonority of *-l/-* and *-r/-* is drastically reduced:

- (4) a. Massimill[ə] *versus* Massimi[l:]
 ‘Massimillo’ (local proper name)
 b. carr[ə] *versus* ca[r:]
 ‘cart’

The deletion of schwa following a nasal results in the nasalization of the tonic vowel:

- (5) a. fin[ə] *versus* f[ĩn]
 ‘thin’
 b. ram[ə] *versus* r[ãm]
 ‘copper’

Notice that such phonetic outcomes involving the deletion of schwa following the glide [j] as well as liquid and nasal consonants have not been studied acoustically and only result from what is perceivable by talking to native speakers. Acoustic measurement of the desonorization and nasalization is beyond the topic of this paper and will be considered in future studies.

3.2 Final schwa: nominal and verbal morphology

3.2.1 Nominal morphology

In the varieties of north-western Calabria the only final unstressed vowel which was not neutralized into schwa is *-a*⁴ which represents the singular feminine nominal morph⁵. Most plural nouns and adjectives do not exhibit masculine/feminine opposition, which is blurred due to the converging outcome in schwa of the original final vowels (Table 5). Neither does the plural definite determiner help disambiguate since it is realized as /i/ for both feminine and masculine forms.

⁴In sentence-internal position and within specific syntactic units *-a/* too can be centralized and realized as [ə] (Fanciullo 1988; Rizzi & Savoia 1993; Loporcaro & Silvestri 2011).

⁵In the dialect of Verbicaro final unstressed *-a/* also defines the class of residual neuter plural nouns (Loporcaro & Silvestri 2015).

	M	F
SG	nʊ kwa'tra:rə a'davətə a boy tall 'a tall boy'	na kwa'tra:ra a'davəta a girl tall 'a tall girl'
PL	'dɔjə / 'tʃertə / ɪ two / some / the.PL 'two/some/the tall boys/girls'	kwa'tra:rə a'davətə boys/girls tall

Table 5: Noun and adjective morphology (Santa Maria del Cedro)

The same nominal endings are displayed on the past participles, which show the adjectival pattern of convergence in schwa for masculine singular/plural and feminine plural:

	done		spread	
	M	F	M	F
SG	'fattə	'fatta	'spa:sə	'spa:sa
PL	'fattə		'spa:sə	

Table 6: Participle morphology (Santa Maria del Cedro)

In these varieties, strong part participles and some adjectives display metaphonetic vowels or diphthongs that function as gender/number marks ((Silvestri 2009)).

3.2.2 Verb morphology

Schwa is the only atonic vowel attested on the endings of the finite verbs, together with *-/a/* which represents the optional ending of the 1 singular person of the conditional.

Moreover, *-/a/* represents the 'short' ending of the 3rd singular person of all finite moods and tenses which in some dialects of the 'Lausberg Area' systematically triggers the phono-syntactic doubling of the initial consonant of the following word (see Silvestri 2007 for a description of RF in the dialect of Verbicaro).

Given the phonetic conditions sketched in (§3.1), schwa undergoes deletion regardless of the category of the target-word.

It will be shown that the realization of word-final schwa correlates with a peculiar prosodic contour that requires an extra final tone and results in a change of the overall intonation of the utterance.

4.1 Target-word within the sentence

Let us describe the context in which the target-word occupies the sentence-internal position.

In (10) the target-word ([^hmɪndʒ] ‘half’) belongs to the syntactic phrase which encodes the informative focus. Due to the internal structure of this phrase and the sentence word order, the target word is placed in the middle of the utterance. From a pragmatic point of view, the utterance in (10a) functions as the answer to the question ‘What would you like?’. Given this word order and the related informational structure of the sentence, the final schwa is not articulated on the target word (10a). However, the same target word can also convey the narrow or contrastive focus of the sentence. The utterance in (10b) is to be interpreted as the ‘corrective’ answer of the question: ‘Would you like a quarter of a chicken?’. Given this specific pragmatic context, the final schwa has to be realized on the target word. It is crucial to point out that the difference between (10a) and (10b) is also supra-segmental as the two utterances are realized with a distinctive intonation contour. More specifically, the constituent representing the contrastive focus in (10b) is uttered with an intonation peak. Therefore, even though [^hmɪndʒə] does not occur in prepausal position, it needs to be articulated with final schwa and has to bear the intonation peak of the overall sentence.

- (10) a. vɔ'lwɛ:ra nɔ 'mɪndʒ^h 'pɔllə (Santa Maria del Cedro)
 want.1SG.COND a half chicken
- b. vɔ'lwɛ:ra nɔ 'mɪndʒə 'pɔllə
 want.1SG.COND a half chicken
 ‘I would like half a chicken’

The focalized constituent [nɔ 'mɪndʒə], which also conveys the contrastive stance of the new piece of information with respect to the interlocutor’s presupposition, bears the sentence stress and rules the alternation between final schwa and zero phoneme on the target word.

The data from north-western Calabria contribute to the issue of the *in-situ* focus in declarative sentences (Lambrecht 1994; Krifka 2007), i.e. arguments or modifiers (verb arguments, post-verbal adverbs, post-nominal adjectives) surfacing in their original position. Such focalized constituent is identified by several peculiar segmental and supra-segmental features among the southern Italian dialects, including the

retention of unstressed final schwa.

4.2 Pragmatically unmarked exclamatives

Exclamatives share some semantic and pragmatic properties with assertive utterances: both types of utterances encode a propositional content assumed to be true. However, the assertive intention is mainly informative whereas the nature of an exclamative utterances is remarkably expressive (a.o.; Zanuttini & Portner 2003; Delfitto & Fiorin 2014). Therefore, exclamatives are realized at the perceptual-auditory apparatus with a specific intonation defined by distinctively high pitch. Several studies show that, although great variation can be detected among languages (Bolinger 1989; O'Connor & Arnold 1961; Delattre 1966), a common prosodic pattern for exclamatives is a final falling contour and initial extra H(igh) pitch tone. Crosslinguistically, exclamatives can be encoded through a large array of structures, the most common of which are clauses headed by question words (*wh*- elements) and intonationally marked declarative sentences. As in most languages, in spoken standard Italian intonation plays the leading role in conveying the exclamative modality and contributes to the perceptually prominent illocutive force of the utterance (D'Eugenio 1976; Grice et al. 2005; Sorianello 2010; 2011; 2012). Therefore, intonation identifies exclamative modality and distinguishes it from the declarative sentences.

The empirical evidence assessed for the dialects of north-western Calabria reflects a peculiar pragmatic value of exclamatives of the declarative structure⁶ which involves a specific prosodic contour and the obligatory realization of final schwa on the target word occupying the sentence-final position (§4.4).

4.3 Pragmatically unmarked yes-no interrogatives

In spoken standard Italian, not only is the intonation crucially distinctive for exclamative utterances but also for interrogatives, i.e. information-seeking utterances. Intonation of query-type utterances characterizes both *wh*- and *yes-no* questions. As for the latter type, the intonation plays the main role in distinguishing the interrogative modality from assertive utterances. Several patterns for interrogative melodic contour are attested among Italian dialects. Grice et al. (2005) took into account a sample of Italian varieties in which the pitch accents, i.e. the primary cue for interrogative prosody to be mapped, greatly varies with the only

⁶*Wh*- exclamatives are not taken into account in this study as their semantic entailments in pragmatically marked contexts need to be further investigated with more extensive fieldwork.

stable common feature, i.e. a final fall tone. Also, only one identical contour can be implied for different pragmatic purposes.

4.4 Pragmatically marked exclamatives and yes-no questions

The central evidence for our discussion revolves around exclamatives built without *wh*- elements and *yes-no* questions, both types exhibiting a marked pragmatic characteristic. More specifically, the exclamatives at issue respond to the hearer's need of further clarification or carries out a higher degree of assertiveness and peremptoriness (cf. surprise-disapproval utterances in Munaro & Obenauer 2002 and Obenauer 2004). Crucially, the resulting melodic contour characterizing the exclamatives in the dialects of north-western Calabria is different from any possible exclamative contour in standard Italian.

The pragmatic markedness of the *yes-no* questions can be described as the speaker's intention of seeking further confirmation about the communication content expressed by the interlocutor(s). Through this type of *yes-no* questions, the speaker expresses concern or incredulity towards his/her interlocutor. Therefore, this type of interrogatives seems to be more pragmatically complex than the counter-expectation questions (Payne 1990:212).

5 Instrumental evaluation of prosodic features: a pilot experiment

A pilot experiment has been conducted to better assess the empirical evidence which was collected for this study. The data have been instrumentally analyzed in order to shed light on the correlation between pragmatic markedness of the exclamative and interrogative utterances and their intonation patterns. Also, acoustic tests have been run to appreciate the supra-segmental correlates of the obligatoriness of final schwa on the target words that bear the informative focus of the sentence.

Six native speakers of the dialects of Marcellina were selected as informants for the experiment: 3 males of 22, 46, 68 years of age and 3 females of 25, 51, 83 years of age. Each informant was asked to perform 5 sentences. Every sentence was uttered with 5 different intonation patterns: assertive, unmarked and marked exclamative, unmarked and marked interrogative. The recordings were operated in a sufficiently quiet room using '*Pinnacle Podcast Factory*' as recording device. Afterwards, the segmentation of the target-utterances and the hand-labelling

have been conducted through PRAAT. Finally, transcriptions have been made through SAMPA symbol system.

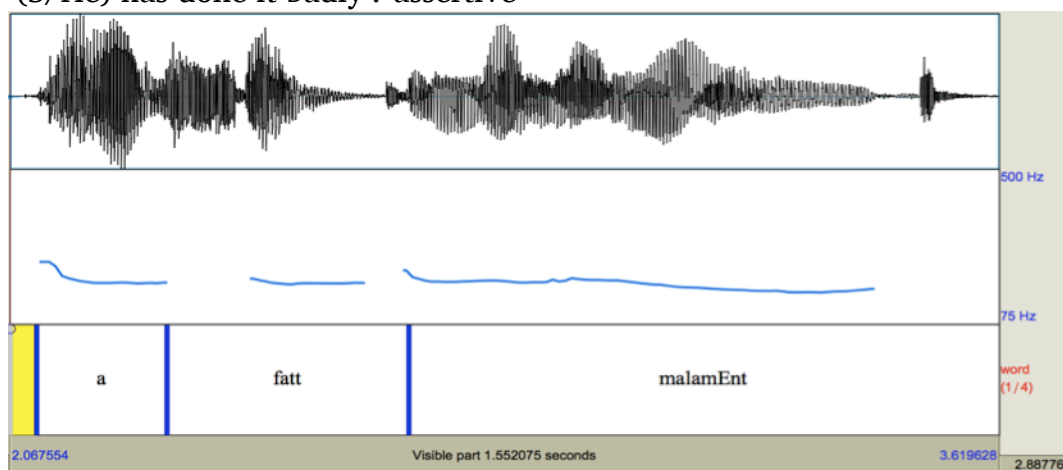
The results discussed from now on come from the analysis of the utterance [ˈa: ˈfatt^h malaˈment^h] ‘s/he has done it badly’, which has been performed by the female speaker of 51 years of age, according to the five pragmatic interpretations which have to be contrasted.

5.1 Statement vs unmarked no-wh exclamative

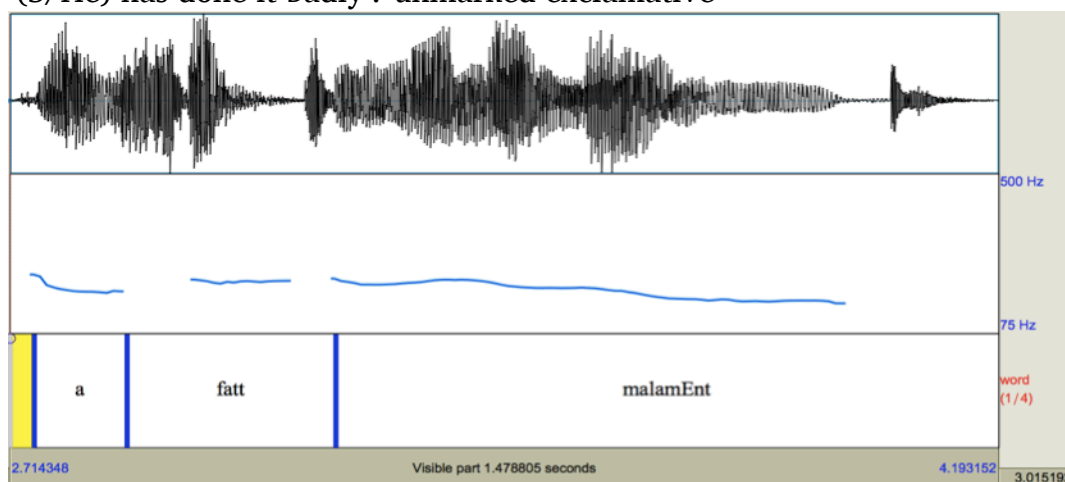
The comparison between the two graphs below shows that in the dialect of Marcellina broad focus statements (declaratives, assertives) and non-*wh* exclamatives constitute minimal pairs.

In comparison with the assertive utterance (11), a clear falling contour is observed in the exclamative (12) in correspondence of the last word (= target-word), whereas the prenuclear contour shows a melodic plateau pattern without considerable frequential variation.

(11) ‘(S/He) has done it badly’: assertive



(12) ‘(S/He) has done it badly’: unmarked exclamative



From the auditory-perceptual point of view, the exclamative is realized as an utterance which is faster in the beginning, but slower in its final part. Statements would not produce the same slowing effect. As Sorianello (2012) points out in her acoustic study on exclamatives in the upper-southern Italian dialect of Bari, the unusual duration of the final stressed syllable might work as a reliable acoustic parameter related to speaker’s marked expressive attitude.

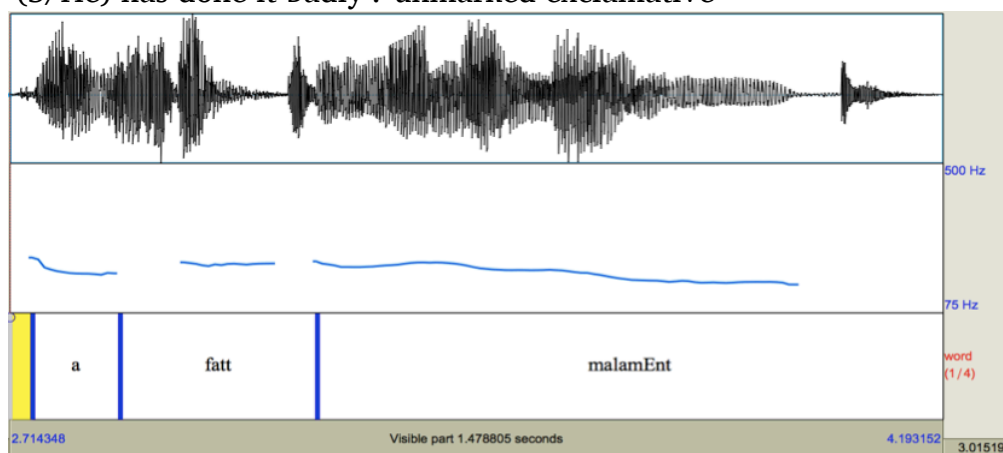
Also, as for the segmental level, both waveforms display a signal of aspiration right after the articulation of the dental.

5.2 Unmarked no-wh exclamative vs marked no-wh exclamative

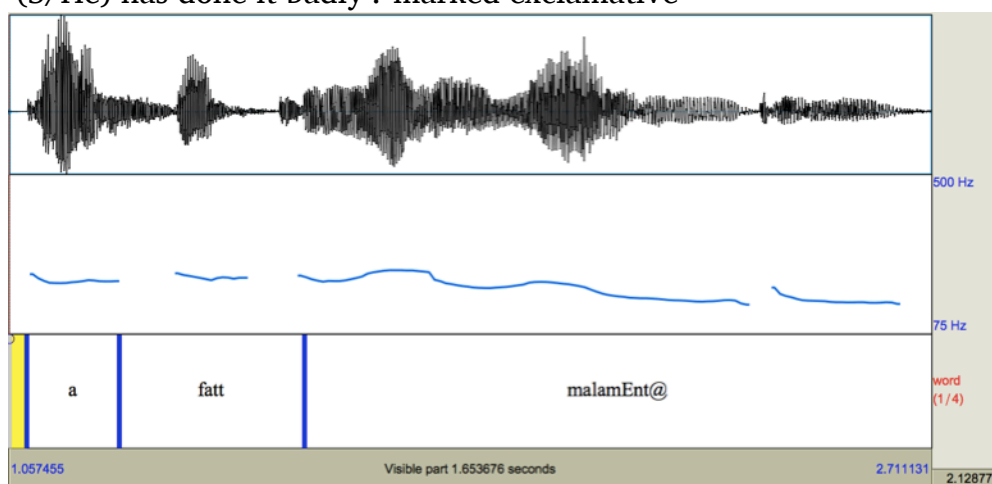
The juxtaposition of the graph representing the unmarked exclamative, reproduced below as (13), with the graph representing the pragmatically marked exclamative (14) reveals two major points of divergence. First, the prosodic contour of the marked exclamative does not show a stable prenuclear plateau. Rather, from a phonological point of view, it is likely that this prenuclear contour is better represented through a left boundary tone, namely %H. Moreover, the max f_0 is maintained longer in the marked exclamative before falling.

Secondly and most importantly, in the marked exclamative (14) a final schwa is articulated on the last word of the sentence which also corresponds to the information focus. The extra segment is clearly detected and, altogether with the left boundary tone, i.e. the prenuclear %H, proves to express a specific pragmatic function.

(13) ‘(S/He) has done it badly’: unmarked exclamative



(14) ‘(S/He) has done it badly’: marked exclamative



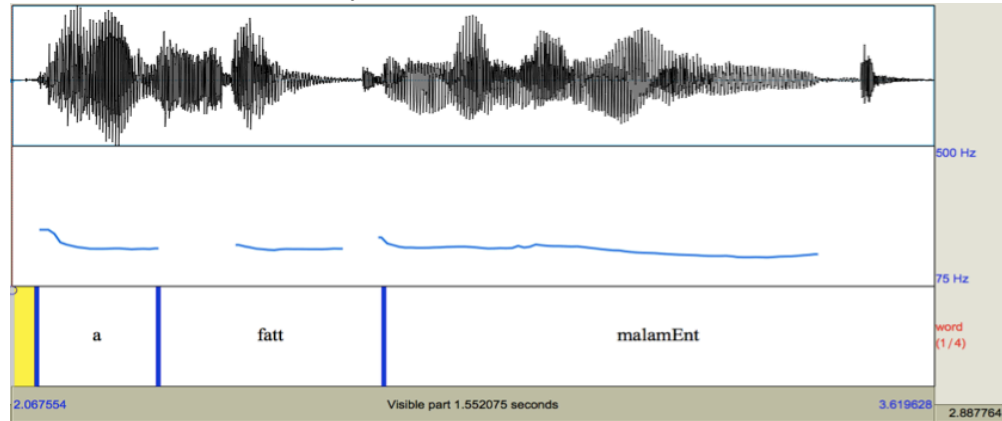
Both types of exclamative exhibit a neat prosodic characterization which correlates with their pragmatic value. Namely, both types represent the articulatory-perceptual outcome of the speaker's expressive stance of peremptoriness. As for the marked exclamatives in the dialect of Marcellina, the acoustic aspects expressing the exclamative stance to a higher degree are strikingly evident. The remarkable lengthening of the final syllable correlates with the articulation of the final schwa. The melodic contour displays a different tonal distribution with respect to unmarked exclamatives. Intonation features and segmental insertion act as articulatory-perceptual signals of heavier illocutionary force.

5.3 Statement vs unmarked yes-no questions

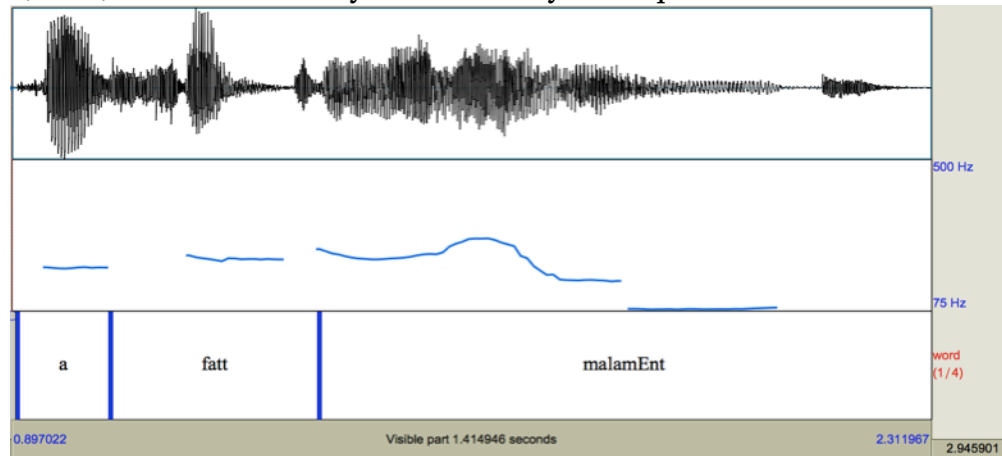
In comparison with the assertive intonation contour (15), the (unmarked) interrogative (16) is characterized by a tonal fall with respect

to the nuclear H tone.

(15) ‘(S/He) has done it badly’: assertive



(16) ‘(S/He) has done it badly’: unmarked yes-no questions

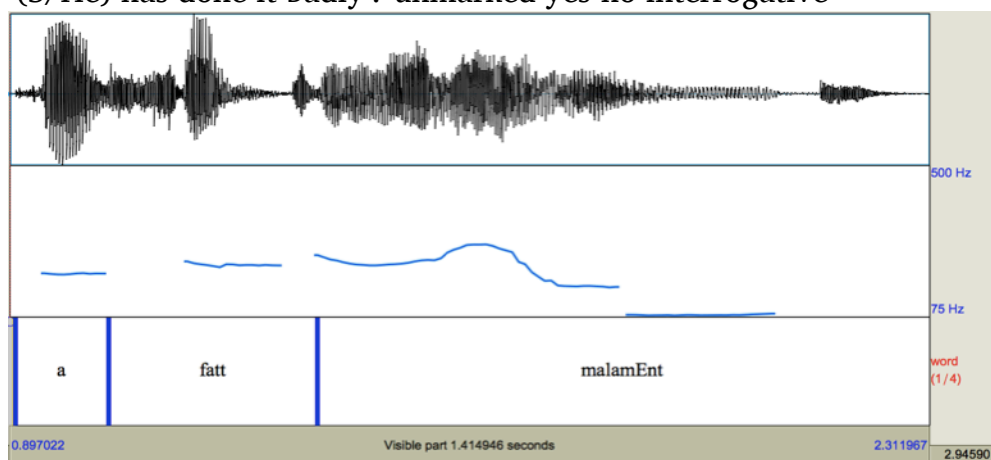


The highest pitch in the interrogative is realized on the tonic syllable of the target-word. A L tone follows a *H, therefore giving raise to the sequence H + L(ow) occupying the stressed syllable. As for the segmental elements, the waveform captures the aspirate appendix right after the dental stop, whereas no trace of final schwa is detected.

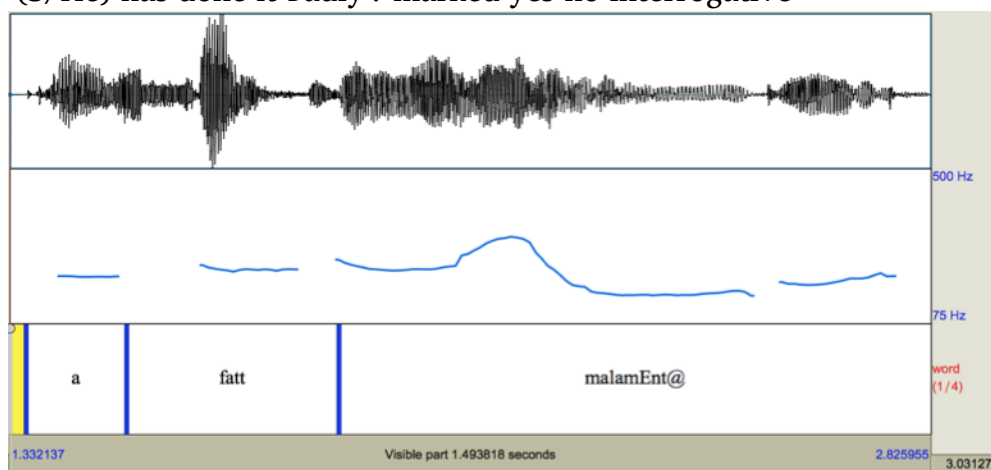
5.4 Unmarked yes-no questions vs marked yes-no questions

The graphs representing the unmarked (17) and marked (18) questions appear to be very similar. A diverging point between them is the pitch of the tonic syllable of the target word, which plausibly bears the sentence accent.

- (17) ‘(S/He) has done it badly’: unmarked yes-no interrogative



- (18) ‘(S/He) has done it badly’: marked yes-no interrogative



In the marked question (18) the highest pitch pick is higher than the corresponding pitch peak in the unmarked question (17). However, while in the unmarked interrogative the tonic nuclear space on the target word is occupied by $H^* + L\%$, in the marked question the tonic syllable of the target word shows a L^* followed by a raising intonation. The falling melodic effect is perceptually more prominent in the marked interrogative. More importantly, the final tone is articulated at the segmental level through the insertion of the word-final schwa. The insertion of more phonetic material is the physical base for a slightly raising tone $H\%$ to be realized.

5.5 First observations

From the instrumental analysis of the melodic contour, it emerges that marked exclamations in the dialect of Marcellina display a pattern $H^* + L\%$ on the target-word which also conveys the sentence accent. As for

the marked interrogatives, the characterizing intonation pattern can be described as $L^* + H\%$. Yet, it has been noticed that for marked questions the female speakers over 70 also allow the final contour $L^* + L\%$, whereas male speakers of the same age range seem to prefer it.

Related to these specific intonation features, the articulation of the final schwa is the systematic segmental counterpart expressing the markedness of these utterances.

5.6 Articulation of final schwa and contrastive focus

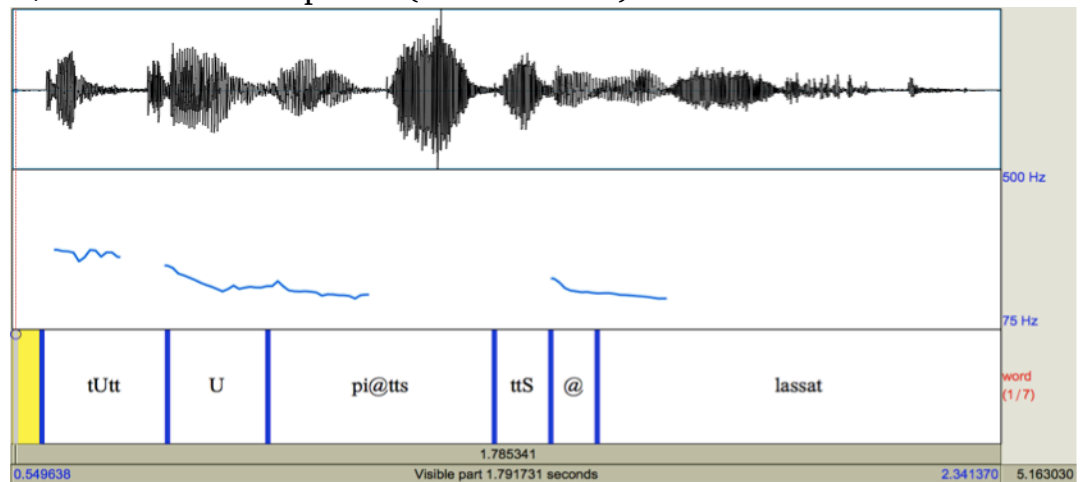
It has been noted (§4.1) that in a sentence wherein the word order is unmarked and the target-word is placed in sentence-internal position, given the phonetic conditions illustrated in Table 4 and in (9), the final schwa is elided and a light aspirate appendix is produced. However, when the target word belongs to a focalized syntactic constituent, the realization of schwa cannot be overridden. More specifically, in the dialects of north-western Calabria, if a word ending in schwa expresses narrow or contrastive focus within assertive utterances, the schwa has to be articulated irrespective of the placement of the word in the sentence, i.e. also in sentence-internal position where the phonetic context usually triggers the deletion of schwa (9).

In order to capture the acoustic variables at work, a sentence where the constituent conveying the informative focus has been left-dislocated has been instrumentally analyzed. The sentence under examination is $['tutt \text{ } \upsilon \text{ } 'pi\grave{a}tts \text{ } 'ttʃa \text{ } las'sa:t^h]$'s/he left the whole piece'. In the first instance (19), the target word is inserted in the syntactic constituent conveying the informative focus of the sentence. The word-order is O-(S-)V or O-V(-S), i.e. a marked sequence due to the dislocation of the direct object to the left periphery of the sentence, where usually in standard Italian as well as among Italian dialects the focus-type pieces of information can be hosted: the focalized element is pre-posed and is assigned special focal stress (Rizzi 1997).

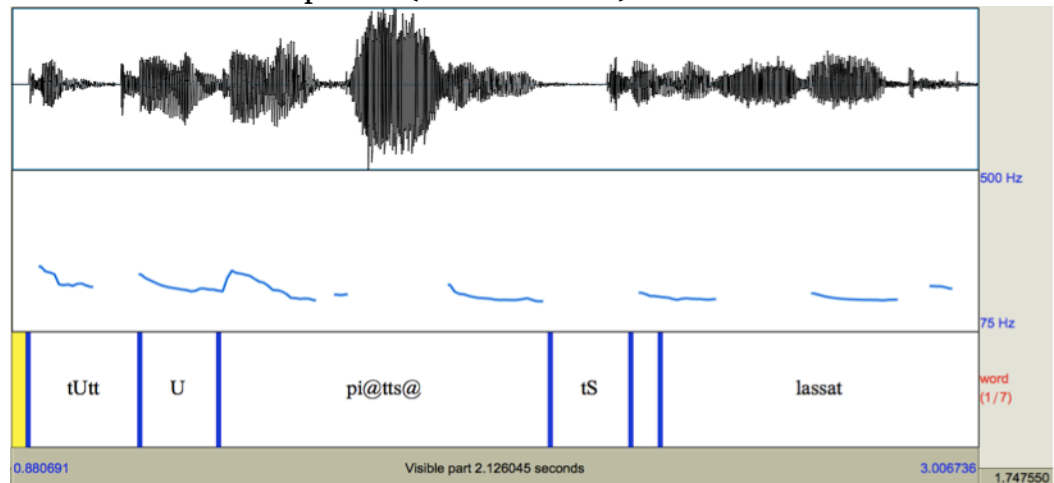
This left-dislocation puts the target-word in sentence-internal position, whereas in the dialects of north-western Calabria the unmarked word order would require the direct object to follow the verb complex. The first graph (19) represents a sentence that can function as the answer to the can be the question: 'How much of the cake has s/he left?'

In the second utterance (20), the dislocated constituent that includes the target word bears the contrastive focus of the information architecture. The hearer's possible presupposition ('S/He only left a bit of the cake, hasn't s/he?') is in contradiction with the truth expressed by the speaker, as the knowledge between speaker and hearer is not completely shared.

- (19) 'S/He left the whole piece': (left-dislocated) informative focus



- (20) 'S/He left the whole piece': (left-dislocated) contrastive focus



The two prosodic contours show one main difference which is the considerable height of the pitch on the tonic nucleus of [ʊ 'piəttʂə] when it functions as a contrastive focus. The rest of the prosodic contour of the two utterances follows the expected descending melodic curve.

Altogether with the prosodic features, the contrastive focus is signalled by means of the articulation of the final schwa which surfaces in correspondence of a prosodic and syntactic boundary.

5.7 Interim summary

Upper southern Italian dialects show some puzzling inter- and intra-variation concerning the acoustic manifestations of prosody. In particular, in the north-western dialects of Calabria the insertion of the word final schwa is subject to specific prosodic features. In these varieties,

schwa, i.e. the outcome of the word final unstressed original vowels -U, -O, -I, -E, is systematically deleted under the phonetic conditions depicted in Table 4 and in (9). This deletion apparently gives rise to the articulation of an aspiration (or to the desonorization of liquids). Furthermore, in terms of phonetic segmentation, this deletion results in a re-syllabification, as the onset of the syllable hosting schwa becomes the coda of the preceding syllable once the schwa is deleted.

In three specific types of utterance, i.e. pragmatically marked exclamations and questions as well as declaratives with left-dislocated narrow or contrastive focus, schwa must be articulated, even though the phonetic context displays the conditions usually triggering schwa deletion. Therefore, given the same assertive utterance, both its corresponding interrogative and exclamative modality can produce minimal pairs on the basis of the change in the pragmatic load. One member of the minimal pair is represented by an unmarked interrogative or exclamative. The other one is the correlating question or exclamation which is pragmatically marked due to the speaker's stance: the prosodic contour, the overall intonation pattern and the insertion of schwa all co-occur to perceptually realize a peculiar and prominent illocutory force.

6 The phonology-syntax interface: a few words

The postulation of the phonology-syntax interface goes back to the foundation of the Standard Theory of Generative Grammar (Chomsky 1965; Chomsky & Halle 1968). As Chomsky (1981) has subsequently shown, an adequate description of a sentence involves a representation of it by three different components: phonological, syntactic, and syntactic-semantic. Hence, an explanatorily adequate theory of grammar must specify the relations between these components. Selkirk (1984) provides a mapping of the relation between the surface syntactic architecture and the underlying phonological representation of a sentence (Selkirk 2001; 2011): she explores the issues related to the relation between syntactic constituency and prosodic constituent domains for sentence-level phonological and phonetic phenomena, the phonological realization (spell-out) of the morpho-syntactic feature bundles of morphemes, and the linearization of syntactic relations which produce the surface word order of a sentence as it is ultimately pronounced. In the last few decades several fundamental works have been put forward that investigate the phonological factors related to word order, including the distribution of the focus (see Inkelas & Zec 1990; Reinhart 1995; Zubizarreta 1998; Samek-Lodovici 2005; Richards 2009, a.o.). The relevant findings concerning

the phonology-syntax interface are underpinned by the conceptualization of the ‘Faculty of Language-Broad sense’ (FLB; Hauser, Chomsky & Fitch 2002: 1570-1) which includes an internal computational system (Faculty of Language-Narrow sense = FLN) combined with at least two other organism-internal systems, i.e. the sensory-motor system and conceptual-intentional one.

The FLN is assumed to be a computational system (and corresponds to narrow syntax): it generates internal representations which are mapped into the sensory-motor interface by the phonological system, and into the conceptual-intentional interface at the semantic level. This simply leads to the principle that the different components of the grammar (phonology, syntax, semantics) do not operate in isolation.

6.1 Contrastive focus: an analysis of prosodic and segmental effects

The systematic articulation of schwa as the final segment of the target word in a focalized constituent correlates with a melodic contour in which the high point on the target word corresponds to a H* tone. According to the remnant of Nuclear Stress Rule (NSR-I), originally detected by Chomsky & Halle (1968), once the position of accents are determined, the position of the sentence stress is given by a rule that strengthens the rightmost accent. By testing this generalization, Truckenbrodt (2012) points out that the same assertive utterance displays two different layouts of this melodic pattern:

- (21) a. Marianna made the marmalade
 b. Marianna_F made the marmalade (Truckenbrodt 2012)

The instance in (21a) is compatible with ‘all-new’ stress-pattern. Each accented word contains a H* tone on its stressed syllable, which defines a high point in the sentence melody. A different pattern is given in (21b). The utterance reflects a stress pattern in which narrow or contrastive focus is the subject, which is accented and contains an H* tone that corresponds to a high point of the melody contour.

What we can observe in (21b) is a F-effect (in Truckenbrodt’s terms) on a constituent which would already bear a sentence accent, in accordance with the Sentence Accent Assignment Rule (SAAR) by Gussenhoven (1983, 1992) for which each argument and each adjunct (= modifier) receives an accent. A refined formulation of SAAR, the STRESS-XP rule (Truckenbrodt 1995, 2012), states that each lexical XP must contain phrasal stress, which is assumed to be coextensive with the accent. This rule crucially works for all-new sentences in which the stress is not af-

ected by narrow focus or by the givenness of some element. In the case of (25b), SAAR cannot be implied given the focus function of the subject.

Following the observation and formalization of Truckenbrodt's F-effect, the left-dislocated XP corresponding to the contrastive focus in the dialects of the north-western Calabria exhibits the specific prosodic effects related to the focus as well as a non-strictly prosodic evidence, which is the realization of schwa as last segment.

- (22) a. [ˈtutt ʊ ˈpiəttʃ ˈttʃa lasˈsa:tʰ] (Marcellina)
 b. [ˈtutt ʊ ˈpiəttʃə ˈttʃa lasˈsa:tʰ]

In (22a) the XP corresponding to the internal argument is placed in the rightmost position of the sentence as it conveys the new information. In (22b) the XP [ˈtutt ʊ ˈpiəttʃə] is marked as the contrastive focus of the utterance: the prosodic features as well as the insertion of final schwa are the perceptual signals of the contrastively focalized XP.

6.2 Syntax of exclamatives and the expression of Force

Other than exclamatives described in (§4.4), a further pattern of pragmatically marked exclamatives is available in the dialects of the north-western Calabria. Whenever the speaker's intention is to express himself/herself with firm determination, the same exclamation can be realized with an initial complementizer⁷:

- (23) (Ca) hâ fatt^h malamendə / *malamend∅ chiru cuntə!
 CA it=has done badly that.MSG thing
 'S/He has done that thing (definitely) badly!' (Orsomarso)

It is crucial that the complementizer can only be realized when the exclamation is pragmatically marked. The spell-out of CA co-occurs with the articulation of final schwa on the adverb 'badly'. The two facts, i.e. the activation of the complementizer CA and the insertion of schwa, define the modality of the sentence which is also conveyed through the specific prosodic tonal patterns of a marked exclamative utterance.

The complementizer activates the left periphery of the sentence inasmuch as it is connected to the illocutory force of the sentence (Chomsky 1995) and ultimately defines the clause type (e.g. declarative vs exclamative / interrogative; Cheng 1991). In Rizzi's (1997) map of the split CP domain, Force corresponds to the highest projection. SIDs too display a rich structure in the left periphery (Ledgeway 2000; 2003; 2005; Damonte 2005; 2009; Paoli 2007; Cruschina 2012; Colasanti 2015; 2017;

⁷I refer to Colasanti & Silvestri (in press) for a detailed study on matrix complementizers in concessive, jussive and optative clauses in Italo-Romance varieties.

representations of the sentences are built in the formal morphosyntactic architecture of the clause, as well as its segmental and suprasegmental phonological features.

Italo-Romance varieties prove to be extremely relevant for the study of the linguistic interfaces and especially underpin the reality of phenomena to account for as generated in the phonology-syntax interface.

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