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ABSTRACT

This paper examines the phonology and phonetics of intonational patterns of vocatives functioning as calls in discourse. In addition it defines the relevant discourse context for the study of the vocatives and it examines the relations between discourse contexts and intonational patterns. The paper is based on a corpus of spontaneous speech.

The analysis shows the existence of many different patterns (rises, falls, and levels). The presence of an interrogative vs a non-interrogative discourse context accounts for (respectively) the occurrence of rises and falls, while the level patterns exhibit context-neutrality. The paper concludes stating that the vocatives with non-level intonation function as modal clues in discourse.

1. INTRODUCTION

In literature, beginning from Pike [1], an intonational pattern known as *calling contour* has been described.

According to Pike, the *calling contour* is a complex pattern consisting of a sequence of pitches combined with a syllable-timed rhythm (1). The pitches drop from level 2 to level 3. Besides, the tone-bearing syllables can be lengthened.

(1)

Pike [1], p. 71: Tommie come here!
°2: -3: / 4: - °2: -3: /

(with syllable-timed rhythm)

Other scholars, after Pike, have studied the form and the meaning of this contour. I remember Abe [2], Crystal [3], Gibbon [4] and Ladd [5]. In the autosegmental theory, the *calling contour* is an example of downstepped contour and its transcription is: H* !H-L% [6].

According to these scholars the typical, neutral form of the *calling contour* is that of a fall between two pitch levels. This fall can or cannot combine with a lengthening of the tone-bearing syllables. Besides the neutral form there are two variants, whose occurrence is constrained by the context. The first variant is a rise between two pitch levels [2], while the second variant is a high level contour without downstep [3].

In this paper I examine the phonology and phonetics of intonational contours of vocatives functioning as calls in spontaneous conversation. In particular I try to answer the following questions:

1) Is there such a thing as a neutral intonational contour for the calling vocatives of Neapolitan Italian?

2) Is there a relation between the intonational contours of vocatives and discourse contexts?

In order to answer these questions, we have to define the notion of *relevant discourse context* for a vocative.

2. VOCATIVES AND DISCOURSE

I assume that the relevant discourse context for a vocative consists of the vocative itself, of the answer to the vocative (optional) and of the utterance that expresses the reason of the call. I name this utterance *reason-utterance*. For example, in (2) the relevant discourse context of the vocative *papà* (line 1) is the answer of the person called (line 2) and the information seeking question expressing the reason of the call (line 3).

(2)

Conversation *Casa*

1 Me: *papà*

daddy

2 Gy: *mh*

3 Me: *la macchina l'hai messa in garage?*

did you put the car in the garage?

4 Gy: *sì perché?*

yes I did why?

[the conversation goes on]

The vocatives of the corpus have been grouped in two classes according to the type of reason-utterance: the vocatives followed by a reason-utterance that is a question belong to the class *Voc-I*; the vocatives followed by a reason-utterance that is an assertion or a command belong to the class *Voc-II*.

In (3) I give a few examples of the interrogative context (3a) and of the non-interrogative context (3b-c).

(3)

a) *Voc-I* (vocative+question)

Meri ce l'hai tu la mia borsa?

Meri do you have my bag?

b) *Voc-II* (vocative+assertion)

Meri là sta la nota per Pane.

Meri the list for Pane is there.

c) *Voc-II* (vocative+request)

Annalisa siediti!

Annalisa sit down!

3. CORPUS AND TONAL ANALYSIS

3.1. Corpus

For this study I have collected a corpus of 60 calling vocatives taken from spontaneous conversations in Neapolitan Italian. The speakers of my corpus did not know that they were being recorded. There are eight speakers in total (three men and five women). They were born and live in Naples. The conversations are very informal, as the speakers are close friends or relatives.

Table 1. Distribution of the vocatives within the speakers of the corpus.

Gy	Ma	Me	Mi	Mo	Ms	Pu	Ti	Tot
2	12	23	13	1	1	2	6	60

3.2. Tonal Analysis¹

A transcription system based on the ToBI system [7] has been developed for Neapolitan Italian (ToBIni) [8], [9]. The most important differences between ToBI and ToBIni are the following:

- Tritonal pitch accents are allowed in ToBIni
- The ToBIni PA inventory is: H*, L*, H*+H, H*+L, H+L*, L*+H, L+H*, L+H*+L [9].

- The H- phrase accent can undergo upstep in ToBIni.

As for the difference between the pitch accents H*+L and H+L* on the one hand, and the pitch accents L*+H and L+H* on the other hand, attention was paid to the alignment of the F0 minimum and maximum of the L and H targets with the syllabic nucleus of the accented syllable.

4. RESULTS²

The F0 contours of the vocatives of the corpus have been placed in four broad intonational classes: rise, fall, high level, and low level. Table 2 summarizes the distribution of the classes within the vocatives. The rises have the highest percentage of occurrence, followed by high levels and falls. The low level can be ignored, as there is only one instance of this pattern.

Table 2. Distribution of broad intonational classes within the vocatives of the corpus

Rise	Fall	High Level	Low Level	Tot
29	9	21	1	60
48,3%	15%	35%	1,7%	

Tables 3-5 show the phonological description of different types of rise, fall and high level, together with the percent distribution of each type.

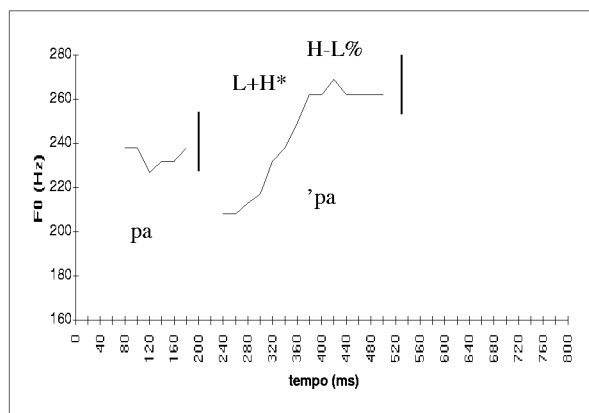
In the majority of the cases (86%), the functional rise is carried out by the rising pitch accents L+H* (or its tritonal variant L+H*+L) and L*+H (tab. 3). In the minority of the cases (14%) the functional rise is performed through a combination of a PA (L* or H*) and a phrase accent (H-).

Figures 1-2 present an instance of L+H* (fig. 1) and an instance of L*+H (fig. 2)

Table 3. Distribution of the different types of functional rise within the vocatives of the corpus.

L+H*	L+H*+L	L*+H	L* H-	H* iH-	Tot
12	1	12	1	3	29
41,4%	3,4%	41,4%	3,4%	10,3%	

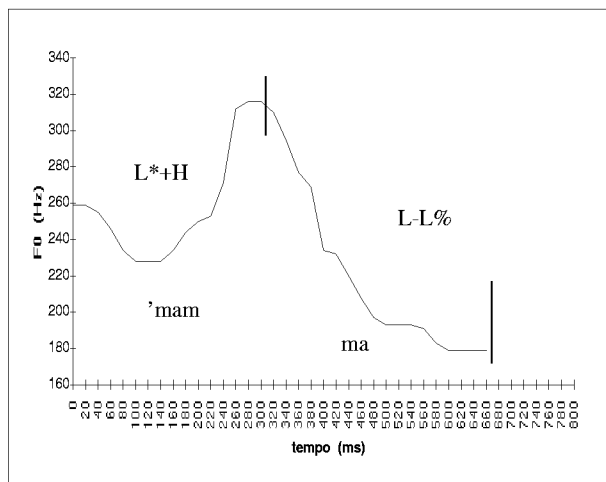
Figure 1. F0 contour of the vocative "papà" with tonal and segmental transcription.



¹ The spectroacoustic analysis was carried out at the CIRASS laboratory of the University of Naples "Federico II", when the author was a PhD student.

² For a first presentation of the data, you can see [10].

Figure 2. F0 contour of the vocative "mamma" with tonal and segmental transcription.



The rising pitch accents are followed by a low boundary tone (L-L%) or by a high level boundary tone (H-L%). The resulting patterns are summarized in (4). It is important to highlight that none of these patterns comply with the neutral form of the *calling contour* described in literature.

(4)

- a) L*+H L-/L-L%
- b) L+H* L-/L-L%
- c) L*+H H-/H-L% or L*+H !H-/!H-L%
- d) L+H* H-/H-L% or L+H* !H-/!H-L%

As for the functional falls, falling pitch accents (H+L*) have a low percentage of occurrence (tab. 4). In the majority of cases, the drop occurs in the space between the H* PA and the L- phrase accent.

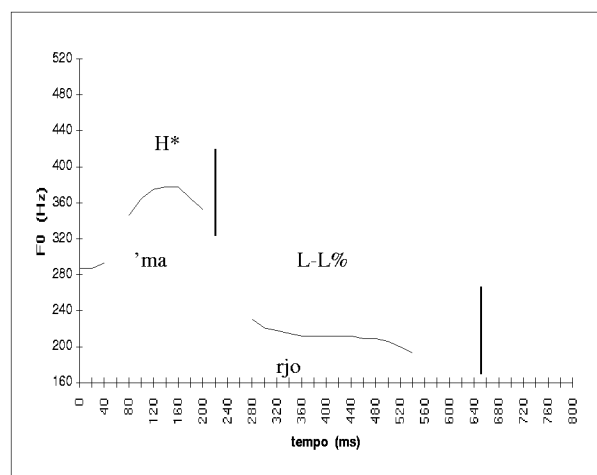
Figure 3 shows an instance of H*L-.

Like rising patterns, falling patterns don't match the description of the typical form of the *calling contour*. In order to match this description, the fall should stop to a mid-level and spread on this level.

Table 4. Distribution of the different types of functional fall within the vocatives of the corpus.

H* L-/L-L%	H+L*	Tot
8	1	9
88,9%	11,1%	

Figure 3. F0 contour of the vocative "Mario" with tonal and segmental transcription.



The functional high level consists of a H* PA and a H- phrase accent. The H- is followed by a H% boundary tone in those cases in which the vocative is the last word of the intonational unit. In the corpus there are two types of high level, differentiated between each other according to the presence vs absence of downstep (tab. 5). The high level without downstep has the highest percentage of occurrence. This pattern is produced by a constant F0 spreading on the same level throughout the vocative (fig. 4). The high level with downstep occurs in the 33,3% of the vocatives. In this case we have a level contour with two steps, with the second step significantly above the baseline (fig.5). This kind of pattern corresponds to the neutral form of the *calling contour* described in literature, while the high level without downstep corresponds to one of its variants (the one described by Crystal).

Table 5. Distribution of the different types of functional high level within the vocatives of the corpus.

H* H-/H-L%	H* !H-/!H-L%	Tot
14	7	21
66,7%	33,3%	

The results of the tonal analysis show, in summary, that the *calling contour*, in its typical form (H* !H-L%), has a very low percentage of occurrence. However, if we consider a high level pattern without downstep (H* H-L%) to be a variant of the *calling contour*, we find that the 35% of the vocatives of the corpus use the *calling contour*. The other 65%, instead, use a rising or falling pattern.

Figure 4. F0 contour of the vocative "Mario" with tonal and segmental transcription.

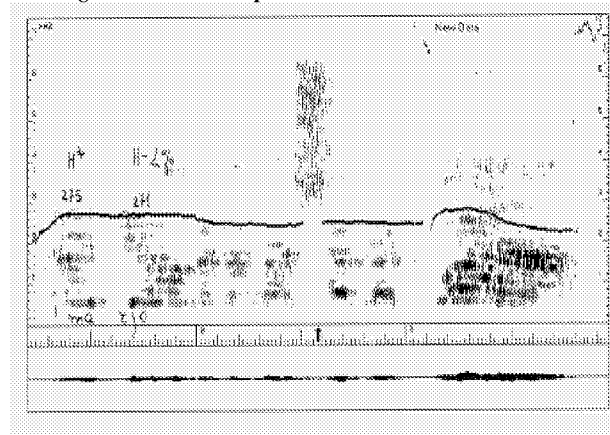
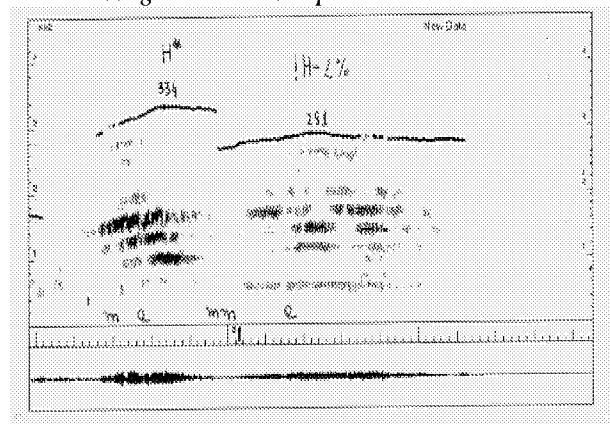


Figure 5. F0 contour of the vocative "mamma" with tonal and segmental transcription.



5. CONCLUSION

Table 6. Distribution of rises, falls and high levels within the interrogative (Voc-I) and non-interrogative (Voc-II) context.

	Voc-I	Voc-II	Tot
Rise	24	2	26
	92,3%	7,7%	
Fall	2	7	9
	22,2%	77,8%	
High level	11	10	21
	52,4%	47,6%	

From the distribution of the rises, falls and high levels of the vocatives in Voc-I and Voc-II contexts (tab. 6), we can say that there is a significant relation between rising contours and interrogative context (92,3%), on one hand, and between falling contours and non-interrogative context (77,8%) on the other hand. High level contours, instead, occur with nearly the same frequency in both contexts. In other words a rise tends to be produced on a vocative followed by a reason-utterance that is a

question, while a fall tends to be produced on a vocative followed by a reason-utterance that is not a question. The occurrence of a high level, instead, is not constrained by the discourse context.

At this point I am able to answer the two questions asked in my introduction.

- The neutral tonal pattern of the calling-vocatives in Neapolitan Italian seems to be the high level (H* H-L%) or its downstepped variant (H* !H-L%).

- The calling vocatives uttered with a rising or falling intonation function as modal clues in discourse. This means that they reveal in advance the speaker's attitude towards the propositional content of the reason-utterance. Indeed, this function is very important for the interrogative strategy, because the questioner provides the answerer with some clues to get him to understand that a question is forthcoming before the production of the question. Therefore, we could consider the vocative with non level intonation as a modal cataphora and the vocative with rising intonation, in particular, as an interrogative cataphora.

6. REFERENCES

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