

# THE INTONATION OF INTERROGATION IN TWO VARIETIES OF SICILIAN ITALIAN

Martine Grice

Department of Phonetics and Linguistics, University College London

## ABSTRACT

A study of intonation contours in Palermo and Catania Italian shows that surface dissimilarities between interrogative forms may be simply due to timing differences and the existence of a non-functional tone.

## 1 INTRODUCTION

In Italian, intonation plays a major role in the communication of interrogation. In the case of yes-no (polar) questions, there are no interacting morphological or syntactic cues; it is solely by virtue of their intonation contours that they are perceived as questions rather than as any other illocutionary act. Nonetheless, the tonal pattern which marks this function in different accents of Italian is not uniform. In the two Sicilian varieties examined here, those spoken in Palermo and Catania, it is marked with a rise-fall and a rise respectively.

Use is made here of recordings carried out as part of a more extensive study. These include spontaneous speech, and questions and statements which were read aloud. The latter had accompanying contexts clearly indicating the desired focus structure. An auditory and instrumental examination of these data for five speakers of each variety (all speaking regional Italian rather than a dialect) provides the basis for discussion.

## 2 THE TONAL FORM OF INTERROGATION

According to Crystal [3] (210-11) most intonologists view the final direction of pitch movement as paramount in the classification of tones; a rise-fall is therefore considered to be a variant of a fall rather than a rise. In Bolinger's pitch

accent analysis, a rise-fall lies, along with falls, within the Accent A category, except where the fall has a shallow gradient.

If it is the terminal pitch direction which is crucial to the marking of interrogation, then the two varieties of Sicilian Italian, Palermo Italian (PI) and Catania Italian (CI), make use of entirely different intonation patterns: the terminal pitch movement is falling in the former and rising in the latter. However, the two are mutually comprehensible as far as interrogative function is concerned. It is therefore of interest to examine whether there is a common element in these two contours.

It could be argued that it is the *rise* which signals interrogation - intonation group-finally in CI and before the final fall in PI. Although this is tenable in CI, the situation is not clear-cut in PI, where non-final clauses are distinguished from polar questions by intonational means, even though both types of contour contain a pre-terminal rise. Alternatively, interrogation could be signalled by the presence of *high* pitch, manifesting itself as a high terminal in CI and as a boosted peak in PI; but there is no simple correlation here either, as boosted peaks are not confined to interrogatives. They occur on non-final clauses and exclamations, both of which are intonationally (whilst not necessarily syntactically) distinct from polar questions. A consideration of these other forms is important in clarifying the tonal form of yes-no questions.

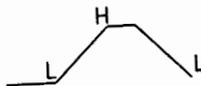
## 3 TIMING IN PI CONTOURS

A closer look at the interrogative in PI suggests that it is the *timing* of the rise that distinguishes polar questions from

other sentence types. In the former, the rise begins and ends on the accented syllable; in fact it is generally accomplished during the vocalic portion of the syllable (which is also the part with highest sonority (cf. Silverman and Pierrehumbert [5]).

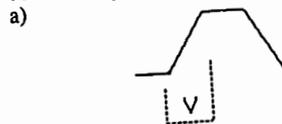
Figure 1 illustrates the F0 contour of a PI yes-no question with narrow focus on the last lexical item: "Glielo porta domani?" (Will s/he bring it tomorrow?). As is most common in Italian, the penultimate syllable is stressed. The final part of the contour (in the region of the final accented syllable and beyond) may be described as the following sequence of tones: LHL. This LHL sequence occurs in the non-final clauses and exclamations mentioned above.

In the schemata presented below, an initial L tone is taken to occur at the point at which the F0 gradient becomes positive (the beginning of the rise), the H tone the point at which a zero gradient is reached; this could be a turning point (peak) or the beginning of a plateau. The final L is the low point reached at the end of the utterance. Schematically:



In all cases, the final L occurs at the end of the intonation unit. We shall therefore concentrate on the timing of the LH sequence.

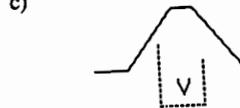
In the polar question, L occurs early and H late in the accented vowel. The contour may be schematised thus:



In non-final clauses, L occurs between one and two syllables before the accented syllable, H occurs late in the vowel, as follows:



In certain types of exclamation, L occurs before the accented syllable and H occurs early in the accented vowel, as follows:



The existence of these contours makes it difficult to account for the distinctive timing in terms of association rules, which allow for the association of one tone with a metrically strong (accented) syllable. Optionally, another tone may lead or trail. An association of the type LH\* would have to be used for cases (b) and (c) above and L\*H for case (a).

Where the accented syllable is word and utterance-final, the rising movement is timed in the same way as in penultimate stressed words but the fall is not completed, i.e. does not terminate low; the rise(-plateau)-fall in Figure 1 has as its equivalent the rise(-plateau)-slump (Cruttenden's terminology [2]) in Figure 2. "Gliel'hai detto tu?" (Did you say it?) The timing of the LH part of the contour is such that both L and H occur on the vocalic part of the syllable; it can be argued that there is a final L if it is considered to be undershot. It appears, then, that the final drop to low does not play an important role in signalling interrogation.

## 4 TIMING IN POLAR QUESTIONS IN PI AND CI

Figure 3 illustrates the CI contour of the yes-no question "Glielo porta domani?" - equivalent to Figure 1 in PI.

Two alternative hypotheses might account for the mutual comprehensibility between PI and CI interrogative contours, both assuming that LH is the crucial sequence.

The first relies on the concept of *alignment* which has been explored in various ways in a number of theoretical frameworks. The work of Bruce and Garding [1] accounts for dialectal variation in terms of whether a F0 peak is early or late in relation to the accented syllable. Ladd [4] formulates this in terms of the binary feature [ $\pm$ delayed peak]. The notion of precise alignment in the above mentioned work is adopted here. However, no constraints are placed on the

number of tones aligned with any given unit.

The second hypothesis makes use of the concept of *association* where one tone only is associated with a unit in the syllabic tier (cf Pierrehumbert [5]). In each case, the low end-point in PI is accounted for differently:

**Hypothesis A:** In PI, L is aligned with the beginning and H with the end of the accented syllable. Once the H target is reached, the pitch falls to a contextually-determined L tone (this low is accompanied by low amplitude and reduced spectral definition). The low FO is realised when additional segmental material follows the accented syllable with which the LH is aligned, as is more often than not the case in Italian.

In CI, the L is aligned with the end of the accented syllable and the H with the end of the phrase; alignment is consistently later.

**Hypothesis B:** For PI, the contour is analysed as L\*H L%. However, both the L\* and the H fall on this syllable. This is due to tonal repulsion of the H (cf. Silverman and Pierrehumbert [6]), by an accent-specific, *contour independent obligatory L%* boundary tone.

For CI, the boundary tone is not obligatorily low; it may be high or low. The contour is analysed as L\* H% or L\*H H% although no independent evidence in favour of the latter tonal form with a bitonal pitch accent has been found.

In opposition to Hypothesis B is the existence of the contour in Figure 4 of the PI question "Ma e' andato al cinema?" (But did he go to the cinema?) where narrow focus is underlined. Both L and H fall on the accented syllable "da". The rest of the contour consists of a high plateau followed by HL. Although the L% in the contour in Figure 1 could be seen as shifting the position of the H back onto the stressed syllable, there is no reason for this to be the case here.

Another problem with Hypothesis B is that, according to Silverman and Pierrehumbert, tonal repulsion occurs in order to allow the tones to be fully produced in the time available. In the example illustrated in Figure 2, where no segmental material follows the accented syllable, the final L is not fully produced. Furthermore, a comparison of a number

of contours by a number of speakers shows that there is no noticeable difference between timing of the LH in penultimate stress contexts (as in Figure 1) and in final stress contexts (as in Figure 2). A theory of tonal repulsion would predict that the proximity of the tones in the latter context would shift the H tone even further back. This is not the case.

Independent evidence in support of Hypothesis A may be found by considering the tonal timing of the other LHL contours in PI. An account of this alignment requires four alignment points, all of which can be used distinctively:

> V- V+ ]

where, in relation to the segmental tier, > is prior to the accented syllable (equivalent to a leading tone); within the accented syllable, V- is early and V+ is late; ] is at the end of the utterance.

The yes-no question (a) is aligned thus:

L H L  
V- V+ ]  
the non-final group in (b):

L H L  
> V+ ]  
and the exclamation in (c):

L H L  
> V- ]

The status of ] in PI is such that it does not align with tones which carry a functional load. There is no choice on the part of the speaker, as there is a L tone in this position in all utterance types. It is perhaps due to the linguistic insignificance of L in this position that it undergoes undershoot when there is insufficient segmental material for the movement to L to be achieved (ie. it is too close to V+). There is certainly no evidence of the H on V+ being lowered for this reason.

This is not the case in CI where either H or L may be aligned with ], a linguistic choice depending on the illocutionary act.

It may therefore be concluded that in PI only a L tone may be aligned with a ], whereas in CI a tone of the speaker's choice is aligned with it. This suggests that in the former case the boundary tone is phonetic (ie. contextually determined) and in the latter it is phonological (implying a linguistic choice). In this case the alignment of the CI polar question:

L H  
V+ ]

can be seen to be equivalent to the alignment of that in PI:

L H L  
V- V+ ]

where both have the LH aligned with the last two meaning-bearing alignment points of the utterance.

## 5 CONCLUSIONS

What appears to be a difference in the intonation contours of interrogatives in Palermo and Catania Italian can be analysed as a similarity of tonal form as follows: the rise or LH sequence which is the marker of interrogation is aligned in both cases with the last two meaning-bearing alignment points in an intonation group. The rise-fall in PI therefore consists of a LH sequence followed by a contextually determined L which has no functional load.

The existence of functional versus non-functional tones requires further corroboration, some of which may be gleaned from a study of other languages which use the rise-fall as marker of interrogation. This may provide an explanation for why these languages do not fit in with the universal tendency for a terminal rise to mark interrogation.

In addition, more detailed phonetic analysis needs to be performed on the PI interrogative contours and a more systematic comparison made with other non-interrogative contours. In particular, the alignment of each tone needs to be carefully controlled. To this end, a perceptual study is planned whereby the alignment of LHL contours is systematically varied.

## 6 REFERENCES

- [1] Bruce, G and E Garding, 1978, A Prosodic Typology for Swedish Dialects, in Garding et al, *Nordic Prosody*, 219-28.
- [2] Cruttenden, A, 1986, *Intonation*, CUP.
- [3] Crystal, D, 1979, *Prosodic Systems and Intonation in English*, CUP.
- [4] Ladd, DR, 1983, Phonological Features of Intonational Peaks, *Language*, 59, 4.
- [5] Pierrehumbert, JB, 1980, The Phonology and Phonetics of English Intonation, MIT dissertation.
- [6] Silverman, KE & JPierrehumbert, 1990 The timing of prenuclear high accents in English, in Kingston and Beckman, *Papers in Laboratory Phonology*, CUP.

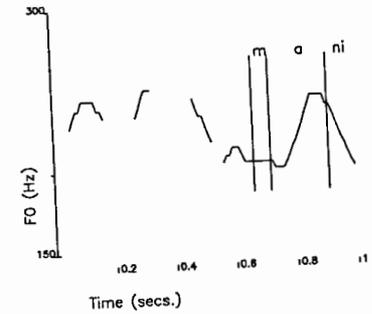


Fig. 1 : "Giello porta domani?" (PI)

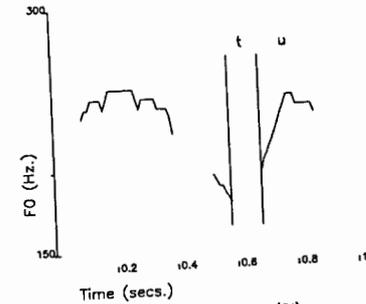


Fig. 2 : "Gieli'hoi detto tu?" (PI)

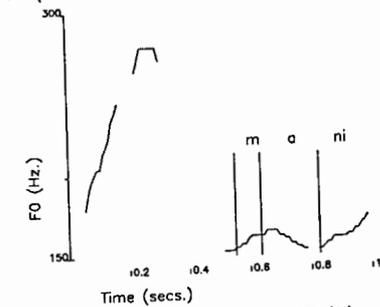


Fig. 3 : "Giello porta domani?" (CI)

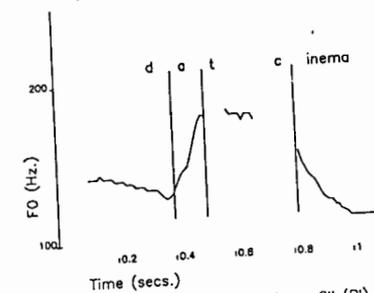


Fig. 4 : "Ma e' andato al cinema?" (PI)