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Strategies for Intonation Labelling across Varieties of Italian

Martine Grice, Mariapaola D’Imperio, Michelina Savino, and Cinzia Avesani

13.1. INTRODUCTION

In this chapter we examine the intonation of a number of varieties of Italian. Since there is no agreement as to what constitutes ‘Standard Italian intonation’ (see Lepschy and Lepschy 1977; Galli de’ Paratesi 1985), we shall not make it an aim of this paper to define such a standard. Instead, we take four geographically defined varieties: from the South, those spoken in Naples, Bari, and Palermo; and from Central Italy the variety spoken in Florence, with a view to establishing a common framework for annotating the phenomena which have so far been studied in these varieties. Although they have all been analysed in an autosegmental-metrical framework, we shall see that there are considerable differences in how this framework is used, and, as might be expected, differences in the phenomena selected for detailed study. Part of our task will be to attempt to piece together this fragmentary picture. A common annotation will facilitate the exchange of data in both variety-specific and in cross-variety studies. It will make it more straightforward to evaluate how far evidence from one variety can be used in support of a phonological analysis of other varieties. It will also enable us to analyse a more diverse set of speech styles than is possible within a smaller more restricted study. In fact, the speech data referred to in the different accounts in this paper range from spontaneous or semi-spontaneous dialogues to specially produced read or scripted speech in the laboratory.

We would like to thank Barbara Gili Fivela for fruitful discussion and advice during the writing of this chapter. We would also like to thank our co-authors of the oral presentation, Giovanna Marotta, Patrizia Sorianello, and Mary Caputo, for sharing their data with us and for participating in stimulating discussions during the development of this annotation scheme. Finally, we would like to thank Jörg Peters and an anonymous reviewer for helpful comments on an earlier draft.
Italian is a free-stress language, with predominantly penultimate, but also final, antepenultimate and even pre-antepenultimate stress (Lepschy and Lepschy 1977; D’Imperio and Rosenthal 1999). In the classification of languages according to their rhythmic type, it has been suggested that Italian is syllable-timed, along with other Romance languages (Bertinetto 1981; Farnetani and Busà 1999; Ramus et al. 1999). However, not all varieties have the same rhythmic properties (for Tuscan and Northern Italian, see Vayra et al. 1984, 1987; Farnetani and Kori 1986; for Southern varieties, see Romito and Trumper 1989). It has even been argued by Romito and Trumper (1989) that certain Southern varieties tend more towards stress-timing. We concentrate on tonal aspects of annotation, the To (Tones) part of ToBI, as these have been studied in more detail than rhythmic or prosodic phenomena, especially in relation to database annotation. This means that the BI (Break Index) part of ToBI is only dealt with superficially.

In the following sections we describe those features of intonational structure shared by all of the varieties examined, and provide an account of those which have been described in one or more varieties, pointing out where similar phenomena should be sought in other varieties. Section 13.2 deals with pitch accents, especially those typical of statements and yes-no questions. It also deals briefly with downstep. Section 13.3 discusses the evidence for two levels of intonational phrasing and proposes how differing degrees of juncture can be transcribed using Break Indices. Then in Section 13.4 we return to pitch accents in order to discuss the notion of nuclear pitch accent, providing a definition appropriate for varieties of Italian. Section 13.5 takes a look at a number of postnuclear prominences and investigates which of them can be analysed as ‘phrase accents’. Finally, in Section 13.6 we propose a way of annotating the partial realization, or truncation, of phrase-final pitch contours.

13.2. PITCH ACCENTS

All of the varieties described here have both falling (H+L) and rising (L+H) nuclear pitch accents, as well as monotonal ones (L* and H*). However, the inventories are not identical. Table 13.1 gives a summary of the nuclear pitch accents as transcribed in each account (see Section 13.4 for a discussion of nuclearity). Prenuclear accents will not be discussed here in any detail since they have not been the focus of any of the accounts available. It appears that a reduced set of accents occur prenuclearly, with a predominance of H* (see Figure 13.7 and Figure 13.8 below) and L+H* (Figure 13.1). Although L* has also been attested (Figure 13.5), its transcription is less straightforward. If we
Table 13.1 Nuclear pitch accents and their uses across the four varieties of Italian

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<tr>
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</thead>
<tbody>
<tr>
<td>Declarative broad focus</td>
<td>H+L*</td>
<td>H+L*</td>
<td>H+L*</td>
<td>H+L*</td>
</tr>
<tr>
<td>Declarative contrastive focus</td>
<td>L+H*</td>
<td>H*+L</td>
<td>H*+L</td>
<td>H*</td>
</tr>
<tr>
<td>Yes/no question BF &amp; CF</td>
<td>L*+H</td>
<td>L+H*</td>
<td>L*+H</td>
<td>H*</td>
</tr>
<tr>
<td>Continuation</td>
<td>L*</td>
<td>L*</td>
<td>L+H*</td>
<td></td>
</tr>
</tbody>
</table>

compare Figure 13.5 and Figure 13.6 below, which represent equivalent utterances in Neapolitan and Bari respectively, we can observe that where Neapolitan has a prenuclear L* accent, Bari has no accent at all. This type of alternation across the transcription systems needs further investigation.

13.2.1. Statements

We can observe from Table 13.1 that the nuclear accents occurring in broad focus declaratives are analysed in the same way in all varieties.

There is no such consensus when dealing with contrastive narrow focus declaratives. However, despite the different analyses, there are indications that the realization of narrow focus, especially if it is contrastive, does not differ considerably from one variety to another. Neapolitan narrow focus declaratives were initially transcribed as having a H*+L tone, like Bari and Palermo. The reason for selecting this particular pitch accent in Neapolitan, as in the other varieties, was based on the fact that there is a sharp fall on the accented syllable, completed either on the accented syllable itself or in the following syllable. The Neapolitan reanalysis of this accent as a L+H* is based on close examination of the focus constituent medial valley, which is analysed as the leading tone of a rising (L+H) pitch accent (D’Imperio 1999). In fact, differently from questions, statement focus constituents made of more than one word present a constituent medial fall, which immediately follows the initial rise, as is shown in Figure 13.1. In this and the following examples, the focused constituent is enclosed in square brackets.¹

What was found is that the medial Fo minimum consistently presents the same value, independently of the amount of segmental material separating the first and second accent in the constituent. Through regression line fitting it was also shown that, by increasing the number of syllables intervening between the two accents, the slope of the contour from the preceding peak to

¹ The ‘n’ label is used to denote the nuclear pitch accent. See Section 13.4.
the medial low becomes shallower. This points to the existence of an actual L target, structurally belonging to the nuclear accent in the narrow focus constituent. It must also be noted that such a result was essential for discounting the plausible hypothesis of a simple ‘sagging’ interpolation between two subsequent H peaks within the constituent (cf. Pierrehumbert 1980). As a consequence of the new L+H* analysis, the constituent final fall cannot be attributed to the pitch accent structure, unless one allows for a tritonal LHL pitch accent, which is dispreferred. We return to the final fall in Section 13.5.

Florentine uses neither H*+L nor L+H* for narrow focus declaratives but rather H* followed by an L- intermediate phrase boundary. The decision to account for the fall with a L- phrase accent is based on results of an experiment where the end of the fall was found to be at the end of the focused word (Avesani and Vayra 2000). This analysis is like Neapolitan in that the fall is not accounted for by the accent alone, but it is also similar to the other analyses in that there is no leading L tone. An examination within each variety of the preaccentual valley along the lines of D’Imporio (1999) and of the fall along the lines of Avesani and Vayra (2000) would provide us with a clearer picture.

The situation is complicated further: in Bari and Palermo, non-contrastive narrow focus declaratives can be produced with the same pitch accent as broad focus declaratives, thus leading to ambiguity as to narrow or broad focus, as is the case for a number of languages including English (Ladd 1996).
An example of a non-contrastive narrow focus declarative is given in Figure 13.2. It could be conceived of as an answer to the question ‘Cosa è andata a fare mamma da Lalla?’ (‘What did Mom go to do at Lalla’s?’). This is different from contrastive narrow focus, an example of which is shown below in Figure 13.9, which would imply a question such as ‘È andata a mangiare mamma da Lalla?’ (‘Did Mom go to eat at Lalla’s?’). Note in Figure 13.2 that the second H+L* accent is prefixed by an exclamation mark (!). This label indicates that the accent is downstepped, a discussion of which is deferred to Section 13.2.3.²

13.2.2. Yes/no questions

There is a good deal more variation in the accents used in yes-no questions. Before dealing with the intonation patterns, it is important to point out that what is described as yes-no question intonation is usually that of information-seeking yes-no questions (referred to as queries, see Carletta et al., 1997). In the case of Bari, the same intonation pattern is used for tentative confirmation-seeking yes-no questions (tentative checks). A check is referred to as tentative

² Also, note that the first H+L*, though not marked as downstepped, presents a lower Fo target than the preceding H*. This is because H+L* possesses an ‘intrinsically’ downstepped quality which is retained even when the accent is not preceded by prenuclear material. This is akin to the H*+L pitch accent in Greek ToBI (Arvaniti and Baltazani this volume Ch. 4) which, owing to the reduced pitch range within which it is always produced, had originally been transcribed as a downstepped accent.
if the speaker’s confidence as to the correctness of inferred material—i.e. that information is old—is very low (Grice and Savino 1997). We shall see below that a more confident check is produced with a different intonation pattern (for a systematic description of intonation contours in Bari Italian queries and checks see Savino 1997).

We can see from Table 13.1 that information-seeking yes-no questions can take L*+H, L+H* and H* as their nuclear pitch accent. The primary cue to interrogation in the Southern varieties is the pitch accent: L+H* in Bari Italian and L*+H in Palermo and Neapolitan, after which there is usually a final fall. A final rise represented as a high boundary tone constitutes an optional stylistic variant in Bari and Palermo. In Florentine, the pitch accent alone is not sufficient to signal unambiguously that an utterance is a question. To do this, a final rise, represented as a high boundary tone, is obligatory. It is important to note here that rising pitch accents (without necessarily a high boundary tone) have been reported in yes-no questions in a number of Central and Northern varieties (Endo and Bertinetto 1997; Marotta and Sorianello 1999; Gili Fivela in prep.). That is, they are not restricted to the Southern varieties. An overview of the most common yes-no question patterns in each variety examined in this paper, concentrating on the nuclear pitch accent and phrasal tones, is given in Table 13.2.

Although the three Southern varieties all use a rising pitch accent to mark questions, the type of pitch accent is not the same: Neapolitan and Palermo have a L*+H pitch accent, where the pitch is low on the accented syllable and rises up from it. The rise may or may not be completed within the accented syllable, depending on factors such as syllable structure and the vicinity of the accented syllable to the phrase boundary. Compare for instance the timing of two instances of L*+H in Neapolitan: in L*+H on ‘na’ of ‘nano’ in Figure 13.3 the rise is completed within the stressed vowel, whereas in ‘bel’ of ‘bella’ in Figure 13.4 the target for the LH rise is realized only at the end of the word. We return to a discussion of the pitch contour after the rise in Section 13.5.1.

<table>
<thead>
<tr>
<th>Question tune</th>
<th>Nuclear accent</th>
<th>Phrasal tones</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neapolitan</td>
<td>L*+H</td>
<td>HL L%</td>
</tr>
<tr>
<td>Bari</td>
<td>L+H*</td>
<td>L-L% or L-H%</td>
</tr>
<tr>
<td>Palermo</td>
<td>L*+H</td>
<td>L-L% or L-H%</td>
</tr>
<tr>
<td>Florentine</td>
<td>H*</td>
<td>L-H%</td>
</tr>
</tbody>
</table>
Fig. 13.3 Neapolitan ‘Vedrai il [NA]no DOpo?’ (Will you see the [dwarf] afterwards?).

Fig. 13.4 Neapolitan ‘Vedrai [la BE]lla mano di MAMmola] doMANi?’ (Will you see [Mammola’s beautiful hand] tomorrow?).

Since there are many cases, both in Palermo and in Neapolitan, where both the L and the H occur within the accented syllable, alignment facts alone would have been insufficient to decide upon the starredness of the L tone. In both varieties the decision is the consequence of a contrast within the phonological system between the question accent and another rising pitch accent. In Palermo, the L*+H contrasts with an earlier timed rise in a type of
continuation contour which takes the $L^+H^*$ label. Similarly, the reanalysis in Neapolitan of the declarative narrow focus contour as having a rising $L^+H^*$ pitch accent motivated the notational contrast and thus led to the use of $L^*+H$ in questions.

Bari Italian is different from Palermo and Neapolitan in that the peak is reached around the middle of the accented syllable. A comparison with Neapolitan, where the peak is reached at the end of the accented syllable can be made by observing Figure 13.5 and Figure 13.6. The question arises as to whether on functional grounds Bari questions should be annotated using the same pitch accent as the other Southern varieties,\(^3\) the $L^*+H$ pitch accent. Our initial decision here is negative; until an earlier-timed rising pitch accent has been found which would contrast with the question accents, we advocate keeping the label as surface-oriented as possible, taking association of a tone to a syllable to be indicated by at least an approximate synchronization in time between the two entities.

Although it is clear that Italian uses intonation to distinguish between yes-no questions and statements, the transcriptions given above suggest that narrow focus declaratives in Neapolitan have a similar contour to yes-no questions in Bari. This leads immediately to the question of whether

\(^3\) The suggestion that the same pitch accent should be used across varieties was also made by Marotta (2000), although she argues that the interrogative rising pitch accents should be transcribed as $L^+H^*$, an option which is not available to us for the Neapolitan and Palermo data on the grounds of contrastivity given above.
cross-variety communication is hampered by the fact that the ‘same’ contour is used for different purposes. However, a closer look at the alignment details reveals that the L+H* accents are not identical in the two varieties. In fact, we can observe from Figure 13.7 and Figure 13.8 that although the valley and the elbow (the beginning of the steep rise) are in the same position in both varieties (respectively around the beginning of ‘ballare’ and at the onset of the
stressed syllable), the peak is aligned differently: in Neapolitan it is early in the stressed vowel, whereas in Bari it is medial. This difference in peak timing leads to a perceived fall on the accented syllable in Neapolitan as opposed to a rise-fall in Bari. Also, while the fall of the Neapolitan L+H* is completely realized within the stressed vowel, this is not the case for Bari L+H*.

Recall that the Bari narrow focus pitch pattern has been transcribed as H*+L, especially when it is contrastive. This accent is also typical of confident checks, i.e. confirmation-seeking yes-no questions containing information which is confidently deemed by the speaker to be old (Grice and Savino 1997). An example of H*+L in a narrow focus declarative is given in Figure 13.9. A comparison between the Neapolitan narrow focus L+H* in Figure 13.7 above, and the Bari narrow focus H*+L in Figure 13.9 reveals that they have very similar contours.

Future research will have to decide whether a reanalysis of the Bari contour is necessary. A reanalysis as L+H* would of course mean that the question accent would have to have a different label. The choice of L*+H, despite the fact that the starred L* tone represents a valley occurring well before the accented syllable might be feasible if it were shown that the valley is consistently anchored to the accented syllable, despite its distance from it. That is, if the position of the valley is consistently related to the position of a landmark (e.g. vowel onset) in the accented syllable, it might be taken to be associated with it. A thorough investigation into the timing of the valley
along the lines of Arvaniti et al. (1998, 2000) is clearly needed before this issue can be solved.

13.2.3. Downstep

Downstep is generally defined as a compression of the pitch range as a consequence of some phonological regularity. In the case of Southern varieties of Italian, we have observed that accents are downstepped in postfocal position, for both questions and statements, as for instance in !H+L* in Figure 13.2 and !H* in Figure 13.3 and Figure 13.4 shown above. Note that we did not include downstepped accents in our description of pitch accent types (see also Table 13.1) since we here follow Ladd (1996) in taking downstep to involve an orthogonal phonological variable independent of pitch accent type. Furthermore, although we take the downstepping of postfocal accents to be a predictable phenomenon, we nevertheless explicitly mark these accents as downstepped using the standard ‘!’ symbol prefixed to the H tone of the accent concerned.

Also, we propose that, unlike in English, downstep applies across intermediate phrase boundaries (see Section 13.3 for a discussion of phrasing levels). That is, downstep is transcribed after the phrasal tone marking the edge of the focus constituent in Southern varieties, as for example in Figure 13.4 and
Figure 13.8 above. In this respect, therefore, Southern varieties are similar to Swedish, where downstep applies to postfocal accents, after the sentence accent (Bruce 1977).

13.3. LEVELS OF PHRASING

The varieties treated here are analysed as having two levels of phrasing relevant for intonational structure: the intonation phrase and a smaller phrase which is generally regarded to be akin to the intermediate phrase in English. Prosodic phonological analysis of Italian has delivered a degree of external evidence for the intonation phrase (Nespor and Vogel 1986; Frascarelli 1997) and in all of the varieties it is undisputed that it has a right peripheral tone which may be high (H%) or low (L%). In Florentine there is evidence for an optional left peripheral high tone (%H). By contrast, the intermediate phrase has only been tentatively proposed, based on the analysis of tonal configurations and a subjective impression of juncture.

13.3.1. The intonation phrase

All the varieties show a L% boundary tone at the right edge of the intonation phrase in declarative sentences (see the Neapolitan and Bari Italian examples in Figure 13.1 and Figure 13.2). A L% tone is also used to mark the right edge of the intonation phrase in yes/no questions in Neapolitan Italian (Figure 13.4). In Bari and Palermo Italian both H% and L% tones can be used to mark the right edge of such questions (see Table 13.2), while in Florentine only H% is attested (Figure 13.10).

In Florentine Italian there is also evidence of a left peripheral high boundary tone (%H), attested so far only in exclamative sentences. Various types of evidence support the claim that the high pitch start is a discrete, non-gradient event: the height of the first pitch accent does not affect the initial pitch height of the contour (see Figure 13.11, where three unstressed syllables precede the accent); resynthesized exclamative utterances with a lower initial pitch are no longer perceived as exclamatives; and, finally, the contour can be perceived independently of pitch range variations. It thus appears that the left peripheral %H boundary tone can be assigned a grammatical meaning, differently from Dutch, where its presence merely produces different pragmatic effects (Grabe et al. 1997). It is yet to be discovered whether the other varieties reveal such a distinction.
13.3.2. The intermediate phrase

It is proposed for Florentine, Bari, and Palermo that the intermediate phrase is marked with a tone at its right edge (H- or L-). In the following section we examine the evidence for the intermediate phrase, taking as an example the Florentine variety. We then investigate how far the resulting analysis of Florentine can be extended to the other varieties.
(i) The intermediate phrase in Florentine: evidence for intermediate phrases comes first from the analysis of postposed vocatives (vocative tags) and right-disjoint adverbials (sententially-attached adverbials).

In both of these constructions the displaced element is perceived as prominent but is realized within a much lower range than the preceding item. In Florentine Italian, as in English (Beckman and Pierrehumbert 1986), the displaced element is treated as accented and is assigned a L* (Avesani 1995; Avesani and Hirschberg in prep.).

Tags are said to be prosodically in a closer relation with the main clause than a separate intonation phrase would be (Gussenhoven 1984; Beckman and Pierrehumbert 1986); on the other hand, it is also said that treating them as part of the same intonation phrase can be problematic. The same considerations can apply to the prosodic realization of Florentine tags and sententially attached adverbials: the latter are said to be syntactically adjoined to the sentence, but they are felt to be prosodically distinct from it, even if the sense of disjuncture between the adverbial and the sentence is less than what would induce the presence of an intonation phrase boundary. Positing the presence of an intermediate phrase boundary which separates the tag or the disjoined item from the rest of the utterance would account for these.

Consider for example a sentence like ‘Accetta Mario’ (‘Accept Mario’). It can have two readings according to the function of the NP ‘Mario’: If ‘Mario’ is a direct object, it is nuclear in the intonation phrase [accetta Mario] and can be associated with a H+L* or H* accent depending on whether the sentence is meant to carry broad or contrastive focus. If ‘Mario’ is a vocative, its pitch contour displays only a minimal movement on the stressed syllable at a much lower range than the accent on the preceding VP (H*). Even if there are no pitch obtrusions (cf. Avesani 1995), ‘Mario’ is perceived as prominent, though it has a lower degree of prominence than the preceding VP.

Despite the absence of articulatory data which might provide evidence of the voluntary production of a pitch accent in a low range, it has been assumed that the prominence is due to the occurrence of a L* accent. The assumption is based on the following considerations:

(a) L* alternates with !H* in the same position. Even if less frequently, a postposed vocative or a sententially attached adverbial can have a clear pitch peak aligned with its stressed syllable. A postposed item with !H* is perceived as having a degree of prominence subordinated to the preceding accented item, just like postposed items lacking pitch obtrusions.

(b) In minimal pairs of VP-object/VP-vocative the duration of the stressed syllable in the vocative is not different from the duration of the stressed
syllable of the accented object in the first member of the pair, which is associated with a H* or H+L*. The same holds true for minimal pairs of VP-attached/S attached adverbials (Hirschberg and Avesani 1997; Avesani 1999).

Figure 13.12 shows the contour for the object-reading of Mario in the sentence ‘Accetta Mario’, transcribed in (1): VP and NP object are part of the same intermediate phrase. Figure 13.13 shows the contour for vocative-reading of ‘Mario’ in the same sentence, transcribed in (2): a L- tone sets apart the VP from the NP.

(1) acCEtM Ario
    H*   H*n L-L%
    ‘accept Mario’       (Mario = object)

(2) acCEtM Ario
    H*n L- L* L-L%
    ‘accept Mario’       (Mario = vocative)

Sentences with left dislocation of the subject are another source of evidence. This type of dislocation can only be made possible if a weak prosodic break is inserted between the dislocated subject and the rest of the sentence. It is rhythmically realized with lengthening of the word final syllable—rarely via the insertion of a short pause—and melodically with a noticeable low or
rising pitch movement aligned with the last unstressed syllable (Avesani 1990). Left dislocation of the subject is more frequent with heavy NPs but perfectly possible and often attested in spontaneous speech also with light NPs.

Ambiguous syntactic attachment of prepositional and adverbial phrases and the ambiguous reading of relative clauses (restrictive vs. non-restrictive) are disambiguated by a different phrasing, mainly realized via the insertion of a H- or L- and only sometimes by a different duration of the lexical sequence across the critical syntactic boundary site (Avesani and Hirschberg in prep.).

Finally, the syntactic boundary of a conjoined clause may be marked by only a H- aligned with the last unstressed syllable of the clause (Avesani 1997).

(ii) *The intermediate phrase in other varieties:* in Bari Italian, evidence of an intermediate phrase boundary is found in yes-no questions read aloud with a following reporting clause such as example (3):

(3) ‘Hai un eliporto?’ ha chiesto allora Marcello
   “Do you have a heliport?” Marcello then asked

The example is taken from a corpus of paragraph-length reported Map Task dialogues (see Savino and Refice 1996; Refice et al. 1997 for a description of the methodology used in eliciting such read materials). Two different strategies were found for reading out such a sequence. In the first, there was a
strong sense of juncture after the question, which was pronounced with a final rise typical of questions read aloud (Grice et al. 1997; Refice et al. 1997). In the second strategy, there was a smaller but not negligible perceived juncture between the question and the reporting clause but the final rise was not realized until the end of the reporting clause. An indication that we are dealing here with a postponed question rise (Bolinger 1985) is given when comparing reporting clauses following questions with those following statements, as in example (4) (which follows (3) in the reading task):

(4) ‘No, ho un aeroporto’ ha risposto Giovanna
   ‘No, I have an airport’ replied Giovanna

where there is always a final fall instead of a rise at the end of the reporting clause. Furthermore, in cases where speakers produced a final rise at the end of the question, the reporting clause had a fall.

The second strategy is thus analysed as two intermediate phrases. Just as in isolated questions, the final rise is analysed as an intonation phrase H% tone, which must be placed at the intonation phrase boundary, which is at the end of the reporting clause, rather than at the end of the question where there is no available intonation phrase boundary. Thus:

<table>
<thead>
<tr>
<th>Question alone</th>
<th>L+H* L-H%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question+reporting clause</td>
<td></td>
</tr>
<tr>
<td>Question</td>
<td>L+H* L-</td>
</tr>
<tr>
<td>Reporting clause</td>
<td>H+L* L-H%</td>
</tr>
</tbody>
</table>

Furthermore, intermediate phrase boundaries are transcribed for Bari and Palermo varieties after adverbials such as ‘quindi’, ‘allora’, and before the main clause in cleft sentences, as exemplified in (5):

(5) [iv[ip È Giovanni ip] [ip che è partito? ip] iv]
   ‘Is it Giovanni who has left?’

The tonal analysis in Palermo Italian is shown in (6):

(6) È GioVANni che è parTito?
    L*+Hn L-                             L*+H L-L%

Since the Fo level reached at the end of the fall Giovanni is not as low as that reached at the end of partito (Grice 1995a), the boundary between the cleft and the main clause is taken to be a minor one. Following Pierrehumbert and Beckman (1988), the strength of the boundary is taken to affect the height of the associated tone.
13.3.3. **Break indices**

On the basis of the findings reported above for levels of phrasing, we propose five levels of break index: 0, 1, 2, 3 and 4. Break indices (BI) mark on a dedicated tier the perceived sense of disjuncture between words transcribed on the words tier. BI 0 should be used when two subsequent words show total cohesion, as in the case of a clitic group (Nespor and Vogel 1986), which is the prosodic constituent containing host and clitics (as, for instance [da'lalla], from *da Lalla*, of Figures 13.2, 13.7, 13.8, and 13.9). BI 1 should be used to mark the disjuncture between clitic groups (such as the one between [mamma] and [andava] in Figure 13.7), while we reserve BI 2 (analogously to EToBI, Beckman and Ayers-Elam 1994) for cases where there is a mismatch between tonal and rhythmic cues to disjuncture. Finally BI 3 and BI 4 should be used to mark the discontinuity across intermediate phrases and intonation phrases respectively. Note that we do not include Break Indices in the figures shown. This is because the present paper concentrates specifically on tonal aspects of the varieties described.

13.4. WHAT IS A NUCLEAR PITCH ACCENT?

Autosegmental-metrical theory defines the nuclear accent as the last accent in a phrase. According to this definition, any lexical items following the nuclear accented word cannot bear an accent. Although Italian has a stronger tendency than English towards placing the nuclear accent late in the phrase (Grice 1995a; Ladd 1996), it does not rule out the placement of focus anywhere else in an utterance. This thus raises the question as to what happens to potential accents in postfocal words expressing given information. Unlike in English, where they would be deaccented (among others, Halliday 1967; Ladd 1980, 1996; Brown 1983; Cruttenden 1993), in Italian they are likely to be accented, since Italian tends to accent given information. For example, repeated lexical items are accented even if they share syntactic function and surface position with their antecedent expression (Avesani 1997). In fact, Ladd’s (1996) claim that in Italian, as opposed to English, it is impossible to deaccent part of a syntactic phrase (Ladd 1996) has been experimentally confirmed by Swerts et al. (1999). It appears that in postfocal position Italian only permits deaccenting of large syntactic constituents (full phrases or clauses). This means that the Italian focal accent can be optionally followed by other accents within the same phrase. This makes the broadly accepted positional definition of nuclear accent inadequate for Italian.
Instead, we take the Italian nuclear accent to be the rightmost fully-fledged pitch accent in the focused constituent. Since the focal structure is not necessarily labelled, and since other tones which bear resemblance to pitch accents may even occur within the focused constituent (see Section 13.5.1 below) we suggest appending a label ‘n’ to the nuclear pitch accent so that it is explicitly flagged. Any following pitch accent or tone within the same intonation phrase (whether in a separate intermediate phrase or not) is henceforth referred to as ‘postnuclear’ or ‘postfocal’.

13.5. IS THERE A PHRASE ACCENT IN ITALIAN?

In this section we look at the evidence for analysing certain postnuclear tones in Neapolitan as boundary tones which have a secondary affiliation to a lexical stress, referred to as ‘phrase accents’. We then consider how far this analysis can be taken to account for postnuclear accentual phenomena in other varieties.

13.5.1. The phrase accent in Neapolitan

A study of the focal accent in Neapolitan Italian (D’Imperio 1997, 2001) has shown some similarities with Swedish focal accent, which is marked by a separate tonal event, the phrase accent, originally referred to by Bruce (1977) as the ‘sentence accent’. Since in both languages postfocal accents are not suppressed, the question arose as to whether a similar tonal event might exist in Italian. This question was addressed by investigating narrow focus patterns. When the constituent in focus is a single word, the fall of the interrogative rise-fall pattern occurs immediately after the pitch accent rise and appears to mark the end of the focus constituent ([nano] see Figure 13.3 above). When the focus constituent is longer, as in the case of ([la bella mano di Mammola] see Figure 13.4 above), the rise and fall appear to separate, with the rise staying anchored to the focus initial stressed syllable while the fall moves forward, reaching its target in the vicinity of the right-hand boundary of the constituent. From the above observation, it was hypothesized that the constituent final fall of interrogatives is analogous to the sentence accent of Swedish, in that this tone marks the end of the focus constituent and contributes to the perceived prominence of the focal accent, without creating the perceptual impression of a phrasal break. A production study concentrated on the properties of the final constituent fall in early focus interrogatives with different focus constituent sizes. It was found that the final HL fall is anchored to the last stressed syllable (when it is available) of multi-word focus
constituents, thus resembling a regular pitch accent. It is important to stress here that the final fall is taken to only resemble a pitch accent. If it were an ordinary pitch accent, then even the new definition for the nucleus as final pitch accent in the focused constituent would be invalid, since the nuclear pitch accent here is $L^*+H$.

When there is only one stressed syllable in the focus constituent, the nuclear $L^*+H$ will take over, leaving the HL sequence to be realized as an appendix of the rise. Specifically, it was found that the target for the HL fall is reached later in single-word focus constituents, as if it were ‘pushed’ outside the stressed syllable by the nuclear $L^*+H$. This is another indication for the $L^*+H$ having a primary and therefore in this case nuclear association to the stressed syllable of the focused word.

13.5.2. Can the phrase accent analysis be extended to the other varieties?

The question arises as to whether the postfocal tones found in the other varieties can be analysed as phrase accents. There are two types of postfocal tone: those where the nucleus and the postfocal tone are within the same phrase, and those where an intermediate phrase boundary intervenes. The first type is found in Palermo Italian. Grice (1995a) discusses a contour in Palermo Italian used in confirmation-seeking yes-no questions, which is reproduced with its original transcription in (7).

(7) $TU$ ghiel’hai DETto?
    $L^*+H$ H+L* L-L% 
    ‘You said it to him/her?’

Here the nuclear accent is $L^*+H$. The contour could at first glance be re-analysed as $L^*+H$ HL-L%, as in Neapolitan. However, the association of the second H tone is different. In Neapolitan, the bitonal HL- phrase accent aligns the (H) shoulder with the stressed syllable, whereas in Palermo it is the (L) valley which is aligned with the stress. However, the HL- analysis is appropriate if the alignment is captured by a strength relation between the two components of a branching ip edge tone:4

(8) (a) ip
    /\ 
    H_s L_w in Neapolitan

4 Note that a similar branching phrase accent with a weak-strong relation between the tones has been independently proposed for a dialect of German (Peters 2001).
(b) ip
   /\  
H_w L_s in Palermo

This analysis entailing a branching edge tone is analogous to the analysis of branching pitch accents (Pierrehumbert and Beckman 1988; Grice 1995b) where the starred tone of a bitonal pitch accent is represented as strong, as in the representation of L^*+H in (9).

(9) pitch accent
   /\  
L_s H_w

In the proposed annotation scheme, 8(a) would be transcribed as H(^)L-, and 8(b) as HL(^)-. We capture instances of secondary association with a stressed syllable by means of a parenthesized star (^), and the primary intermediate phrase association by retaining the original ‘-‘ symbol (which is placed after the second tone if the boundary is bitonal). The parenthesized star is currently only present when there is a stressed syllable with which the phrase accent is associated. The transcription of (7) with a phrase accent rather than a postfocal pitch accent is given in (10).

(10) TU gliel’hai DETto?
    L^*+Hn       HL(^)- L%

Analogously, observe that the phrase accent in Neapolitan is transcribed in Figure 13.4 as H(^)L-. Note that in the absence of a syllable for secondary association, it is transcribed HL-, as in Figure 13.5.\footnote{The postnuclear !H+L^* accents in the Bari examples given in Figure 13.2 and Figure 13.9 could also be analysed as HL(^)- phrase accents. We leave this question open for further research, especially given that the analysis of the type of contrastive focus utterance presented in Figure 13.9 is still tentative.}

The other type of postfocal tone occurs after a phrase boundary. For instance, in the Florentine example in (1b) above, reproduced here as (11), the second transcribed accent could be reanalysed as a phrase accent L- which associates with the stressed syllable ‘MA’ of ‘MARIO’ instead of the pitch accent L^* in the original analysis.

(11) acCETta     MARIO
    H^n L-       L^* L-L% (original analysis)
    H^n L-       L(^)- L%  (alternative analysis)

Here too, the proposed phrase accent is different from the Neapolitan version, this time because it is monotonal and because an intermediate phrase
boundary intrudes between the nuclear accent and the phrase accent. This new analysis is inspired by Gussenhoven’s (1990) tone copy analysis of intonational tags, such as in reporting clauses, where the unstarred tones of the melody in the main clause are copied to the tag.

(12) Were you THERE? asked JONathan
    H*LH     L     H
    adapted from (Gussenhoven 1990: 35)

There is, however, another type of postfocal tone where an analysis in terms of phrase accents is not an obvious option, namely in yes-no questions in Bari and Palermo. In each variety the postfocal accent is very similar in shape and timing to the focal accent it follows (which, recall, is L+H* in Bari and L*+H in Palermo), and is taken to be a copy of it in a reduced pitch range. These postfocal tones are analysed as downstepped pitch accents (L+!H* and L*+!H respectively). An example of post-focal L+!H* in Bari Italian is shown in Figure 13.8 on the word ‘LALla’ in the narrow focus yes-no question ‘MAMma è andata a [baLAre] da LALla?’ . Such a post-focal accent plays a basic role in terms of meaning: if it is suppressed (by using resynthesis, for example), the utterance is no longer perceived as a question.

As we have seen, not all postfocal tones which have an association to a stressed syllable can be reanalysed as phrase accents. In cases where a phrase accent analysis is presumed, we have suggested transcribing the associated tone with a parenthesized star. The affiliation of the tone with a phrase boundary (by means of a ‘-’ symbol) is left untranscribed only in those varieties in which the distribution of these tones is still unclear. The ‘n’ appended to L*+H, marking the identity of the nuclear pitch accent, is particularly important in the labelling scheme, since the nuclear pitch accent is neither the last apparent pitch accent in the focused constituent (e.g. H(‘)L- in Neapolitan in Figure 13.4), nor the last accent in the phrase (e.g. !H* in Figure 13.3 and !H+L* in Figure 13.9).

13.6. TRUNCATION IN THE SOUTHERN VARIETIES

It is worth noting that in the Southern varieties, phrasal tones are not always fully realized if the final syllable of a phrase is accented, as in the Bari example in Figure 13.14, where the final syllable of Noè is associated with a L+H* pitch accent. The pitch accent is followed by two edge tones, L- and L%, which must be realized on the same syllable. A full realization of these tones would mean a fall to low in the range, as is usually the case in yes-no questions in
this speaking style (Grice et al. 1997; Savino 1997). Instead of a full realization, the fall only reaches a level around the middle of the range, and is analysed as being truncated (see Grice 1995a for Palermo Italian; Grice et al. 1997; Refice et al. 1997 for Bari Italian). Our proposal for the ToBI labelling of Italian varieties is to explicitly flag truncation by placing partially realized tones in round brackets. An example of this notation is shown in Figure 13.14, where the fall to mid is captured by (L%).

13.7. CONCLUSION

Despite the lack of a widely recognized Standard, we have shown that it is possible to find common traits among the intonation structure of various regional varieties of Italian, three from the South (Neapolitan, Bari, and Palermo) and a central one (Florentine). First, we have shown that these varieties share a basic set of intonational elements and appear to organize them in similar ways. For instance, in all of the varieties examined, nuclear pitch accent type is used to distinguish contrastive narrow focus from broad focus in declaratives. This distinction is captured in all of the systems reported upon, although, despite an apparent phonetic similarity across the varieties, there are three different ways of transcribing the narrow focus accent. We suggest ways of clarifying whether or not these differences are justified by the phonetic facts.
Additionally, all of the Southern varieties examined employ a rising L+H pitch accent in yes-no questions as principal indicator of interrogativity. On the grounds of functional identity, we discuss whether all three varieties should be transcribed with the same accent type even though there are obvious differences across the varieties in the alignment of the H peak. We opt for reflecting the alignment in the transcription, at least until further evidence of contrasting accents within a variety lead us to reanalyse the starredness of the tones.

Regarding phrasing levels, we have presented evidence supporting the existence of an intermediate phrase and an intonation phrase level, though more data is needed to support the intermediate phrase level. On the basis of the findings, we propose the use of five Break Indices (0, 1, 2, 3, and 4), directly reflecting the phrasing levels discussed here as well as a prosodic level that has been widely studied within the Prosodic Phonology framework (Nespér and Vogel 1986). We assume that such phrasing levels are common to all the varieties of Italian presented here.

We have also discussed the issue of postnuclear accents, which have been attested in some form in all of the varieties, and have proposed flagging the nuclear accent with an appended ‘n’ so that nuclear and postnuclear accents can be easily and unambiguously identified. The advantage of keeping the labelling scheme surface oriented and theoretically conservative is that more research into the underlying phonological structure can be undertaken without updating label files each time new results are obtained. It also allows for the labelling of a database without opting necessarily for one of a number of competing phonological analyses, thus making it more versatile and more broadly usable.

Finally, we have proposed that a process of downstep applies in Southern varieties, modifying the range of pitch accents in postfocal position. Postfocal accents occur after the nuclear accent, either within the same phrase or across phrases. In both situations they appear to be compressed in a way that makes them almost indiscernible. Further research is needed in order to determine whether downstep applies in other conditions and environments too.

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