

## Procedural Encoding and Tone Choice in Buenos Aires Spanish

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### Abstract

This chapter explores some tone choices in the spontaneous speech of Buenos Aires (Argentina) Spanish and attempts to account for them in procedural terms along the lines suggested by Relevance Theory (Wilson and Wharton, 2006). In particular, it analyses stretches of discourse beyond individual tone units, and tries to show how nuclear tone and boundary tone choices and pitch range management affect the interpretation of those tone units in terms of their function in spoken discourse, and how participants in a conversation organize information to indicate dependence, continuity and discontinuity (House, 2006). More generally, it aims to show that these tone choices encode specific instructions to guide the hearer to the most relevant interpretation of discourse by reducing the processing effort necessary to achieve the desired cognitive effects, and therefore argues for a procedural account of intonation.

The prosodic analysis is carried out in the Autosegmental-Metrical framework (Pierrehumbert, 1980; Ladd, 1996) using its application to the study of Spanish intonation known as the Tone and Break Indices (Sp-ToBI) transcription system (Beckman et al., 2002; Hualde, 2003; Sosa, 2003; Estebas-Villaplana and Prieto, 2008), also used specifically in the study of Buenos Aires Spanish (Gabriel et al., 2010a).

The results of the analysis suggest that relevance is pursued both at a local and at a global level, and they lend support to a compositional approach to intonational meaning, in which different

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prosodic choices and their combinations guide pragmatic interpretation at different levels. Overall, the chapter aims to show that Relevance Theory in general, and procedural encoding in particular, offer an insightful way to deal with prosodic phenomena and their meaning.

*Keywords:* Intonation contours, discourse organisation, procedural encoding, autosegmental-metrical phonology

## 15.1 Introduction

Every human language uses variations in pitch, length, loudness and voice quality to structure speech. This continuous variation occurs simultaneously with the words that make up every utterance, and constitutes an inseparable part of it. Intonation languages such as English, French or Spanish use suprasegmental features to provide melody to speech, to give emphasis to some parts of the utterance at the expense of others, to link different chunks of speech, etc.

As House (2006) points out, the fact that we can utter the same string of words with different intonation patterns and understand the resulting utterance differently entails that intonation carries meaning. This meaning is partly iconic and, like other aspects of linguistic structure, partly arbitrary, language-specific. Besides, while some of it is linguistic in nature, some is paralinguistic, conveying attitude, emotion and affect in general. In fact, both types of meaning exploit the same suprasegmental features (pitch range, loudness and length). The difference seems to rest on the fact that linguistic signals are categorical, whereas paralinguistic features are gradient (Ladd, 1996).

Since the effects of prosody are highly context-dependent, and the same prosodic input may have different effects in different contexts, the study of prosody as part of what is communicated has recently been undertaken within the realm of pragmatics, the study of utterance interpretation and speaker meaning, by Relevance Theory, a cognitive approach to the study of meaning based on Grice's central claims regarding the role of inference and relevance in communication (Sperber and Wilson, 1995; Wilson and Sperber, 2004).

By varying the different prosodic features, speakers can separate speech chunks into prosodic phrases, to assign prominences to rhythmically salient syllables, to choose between specific pitch contours and to exploit pitch range at a local and global level. The type of meaning that attaches to each of these subsystems has been a question of debate, with priority

being given to grammatical, attitudinal or discourse functions. According to House (2006), intonation can have three functional orientations:

- a. towards the speaker himself, which includes indexical information about the speaker's social and regional extraction, gender, etc., and paralinguistic information about attitude and emotion, whether it is intentionally or unintentionally communicated;
- b. towards the message (grammatical function): intonation, as an integral part of linguistic form, contributes to the propositional content or clarifies the context in which to process utterances;
- c. towards discourse: intonation contributes to a discourse-building process, revealing the speaker's intended structure of the text, or to the interaction with the listener in dialogue.

This chapter assesses House's third functional orientation, namely the contribution of intonation to the discourse-building process in the Spanish of Buenos Aires (Argentina). Specifically, it analyses stretches of discourse beyond the individual tone unit, and tries to show how nuclear tone and boundary tone choices and pitch range changes affect the interpretation of those tone units in virtue of their function in spoken discourse, and how participants in a conversation 'organize the pieces of information that make up a longer discourse to indicate dependencies, coherence and discontinuities' (House, 2006:1545). It attempts to do this within the framework of Relevance Theory. The ultimate aim is to account for the meaning of tone choices in terms of procedural encoding.

This chapter is organized along the following lines. In Section 15.2, the theoretical framework is introduced, both in the field of pragmatics and prosody. In Section 15.3, previous work on the type of phenomena analysed in Spanish is discussed. The Section 15.4 presents the data explored and the methodology used. Three intonational contrasts and their contribution to information processing are discussed in Section 15.5. Section 15.6 examines the issue in the light of other treatments of prosodic meaning, and considers whether the data presented qualifies as procedural. Finally, Section 15.7 draws some conclusions on the advantages of applying relevance-theoretic principles to the analysis of prosody.

## **15.2 Theoretical Framework**

### **15.2.1 Pragmatics: Relevance Theory**

Relevance theory (Sperber and Wilson, 1995) is a theory of cognition and communication. Relevance is a property of external stimuli

(utterances and other observable phenomena) and of internal representations (thoughts, memories and conclusions of inferences) that may constitute inputs to cognitive processes. External stimuli and internal representations become relevant when they bring about an improvement in an individual's representation of the world by connecting with background information the individual already possesses, and yielding positive cognitive effects. The greater the positive cognitive effects achieved by processing an input, the greater its relevance will be (Wilson and Sperber, 2004). But processing inputs to cognitive processes demands effort of perception, memory and inference. The greater the effort demanded by an input, the less relevant it will be. Therefore, relevance results from a balance between the achievement of positive cognitive effects and the effort required to achieve them. The theory claims that humans have an automatic tendency to maximize relevance. This tendency is regularly exploited in human communication when a communicator tries to affect the thoughts of an audience and get them to recognize that he has this intention through inference. The use of ostensive stimuli<sup>1</sup> (including linguistic utterances) to achieve this intention creates precise and predictable expectations of relevance, that is, a presumption of relevance.

An ostensive stimulus is relevant enough to deserve the audience's attention when it is more relevant than any other stimulus available at the time. As the communicator wants to be understood, he will try to make his ostensive stimulus as easy as possible to understand, within the limits of his abilities and preferences, so that it achieves the intended cognitive effects.

In processing linguistic inputs (utterances) in human communication, there is an element of decoding, but the linguistic meaning recovered by decoding is treated by the audience as just one of the inputs to a non-demonstrative inference process to arrive at a hypothesis about the speaker's intended meaning. Thus, Relevance Theory presents an alternative to the code model of communication, according to which communication is achieved only by encoding a message into a signal and decoding the message from the signal at the receiving end (Sperber and Wilson, 1995). Since linguistic communication involves both coding and inference, linguistic coding provides two kinds of input to the inferential phase of comprehension: conceptual or representational and computational or procedural, that is, information about the conceptual

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<sup>1</sup>According to Wilson and Sperber (2004), an ostensive stimulus is one designed to attract the audience's attention and focus it on the speaker's meaning.

representations and information about how to compute those representations (Wilson and Sperber, 1993). Procedural coding expressions constrain the inferential phase of communication in the recovery of explicit and implicit content by narrowing the search space the speaker has to inspect in order to arrive at a relevant hypothesis about the speaker's intended meaning (Blakemore, 2002). Thus, procedural expressions reduce the overall processing effort required to arrive at the intended interpretation. Linguistic expressions which have been analysed in procedural terms within Relevance Theory include discourse connectives, discourse particles, pronouns and mood indicators.

Relevance Theory has been applied to the study of a range of natural behaviours (Wharton, 2003a, b, 2009), to the analysis of linguistic prosody in general (Wilson and Wharton, 2006) and to specific prosodic phenomena in English (House, 1989, 1990, 2006, 2007; Wilson and Wharton, 2006; Clark, 2007), in Norwegian (Frøtheim, 2002) and in Spanish (Escandell-Vidal, 1998).

### 15.2.2 Prosody: The Autosegmental-Metrical Approach

The prosodic analysis of the data is carried out within the Autosegmental-Metrical (A-M) framework of intonational phonology (Pierrehumbert, 1980; Ladd, 1996). This approach characterizes contours in terms of distinct elements and maps them onto acoustic parameters. Tonal structure is linear, and it consists of a series of events anchored to certain points in the segmental string: pitch accents, which are associated with prominent syllables in the segmental string, and edge tones (boundary tones and phrase accents), which are associated with the edges of different prosodic domains. In turn, both pitch accents and edge tones are analysed as consisting of H(igh) and L(ow) level tone targets. The A-M approach to intonation has found its way into the analysis of prosody through the Tone and Break Indices (ToBI) transcription system, and has been applied to the study of prosodic phenomena in different languages.

Spanish ToBI (Sp-ToBI) has resulted from the joint efforts of different intonologists (Beckman et al., 2002; Hualde, 2003; Sosa, 2003) and has recently been revised and updated by Estebas-Villaplana and Prieto (2008) on the basis of the analysis of data from different varieties of Spanish.

## 15.3 Background on Spanish Intonation

A phenomenon similar to the one discussed in this chapter has already been noticed in Peninsular Spanish. Navarro Tomás (1971:212) mentions the fact that intonation varies continually, but there is a

certain regular pattern which can be reduced to two intonational shapes which occur successively when a declarative sentence is divided into two tone units, shown in Figure 15.1: shape A in the first tone unit: starting from a low pitch, the voice gradually rises to the first accented syllable, and stays at a medium pitch; then, on the last syllable, the one before the last, or the second before the last, it goes up; shape B in the second tone unit: the voice stays at a medium pitch level, and at the end it goes down.

This description applies when the affirmative sentence is divided into two tone units. If it is realized in just one tone unit, then the two shapes merge, and the rise and the fall occur within the bounds of this unit (Figure 15.2).

If the declarative sentence is, because of its length, segmented into more than two groups, the final tone group will always have a falling pitch movement connected with the act of assertion, and the previous groups will usually be uttered on a rising nuclear pitch movement.

In discussing assertive intonation, also in Peninsular Spanish, Canellada and Madsen (1987) also connect the act of assertion to a marked final fall. Alternating rises and falls in previous tone units – these authors claim – helps keep a balanced line. Following Navarro Tomás, they once again propose a binary division into two branches for the two intonational shapes above: the tensive branch (A) and the distensive branch (B). In analysing the meaning of these choices, they point out that the tensive branch operates as a call for attention to what comes next. The rising end of the tensive branch acts like an axis separating given information from new information in the distensive branch.

Quilis (1993) states that in Peninsular Spanish declarative utterances, which have a complete meaning, always end with a falling pitch,

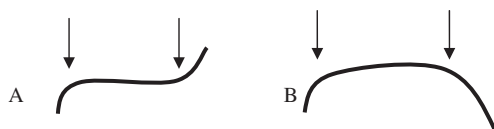


FIGURE 15.1 The two basic intonational shapes in declarative utterances (Navarro Tomás, 1971).



FIGURE 15.2 The rise and the fall within one tone unit (Navarro Tomás, 1971).

while interrogative utterances, which have an incomplete, unfinished meaning, end with a rising pitch. Therefore, rising pitch can be used as a marker of incompleteness to ask questions or to express relations between different parts of an utterance. Enumerations, coordinated sentences and parenthetical phrases alternate rising or level intonation and falling intonation. Rising intonation indicates that the meaning of the phrase is incomplete, and needs to be completed or complemented.

These authors are mostly concerned with prose and poetry read aloud, but their observations and comments reveal their awareness of these prosodic choices and their meaning in the Spanish of Spain, and they are the basis for the claims in this chapter.

## 15.4 The Data and Methodology

The data analysed here come from three interviews broadcast on an Argentinean cable TV programme<sup>2</sup> in 1998 and 1999. In these semi-spontaneous conversations, the interviewees talk about their lives, the origin of their careers (they are all well-known people in the country) and their opinions about different issues related to their careers. These interviews were chosen because they seem to exhibit a wide variety of discourse strategies which the speakers employ in pursuit of their conversational goals, many of them achieved through prosodic means. There are also sound reasons to explore tone choice in spontaneous speech. According to Face (2003), certain features of spoken Spanish, such as utterance complexity and length, which lead to speakers making phrasing decisions to segment utterances in several tone units, and thus making the kind of tonal choices studied in this chapter, surface more often and more naturally in spontaneous speech than in lab speech.

The interviews were transcribed and segmented auditorily, the tonal choices were also transcribed auditorily and these auditory perceptions were checked using the PRAAT software (Boersma and Weenink, 2010) for some key examples which seemed to be representative of the relevant tonal configurations. The tone units were labelled in terms of the Sp-ToBI transcription system. Both the cognitive effects achieved by the utterances and the contribution of the tonal selections to maximizing the relevance in the context of previous discourse were assessed.

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<sup>2</sup>The programme in question is called 'Testimonios' and was broadcast on Channel A on the following dates: March 6, 1998, Soledad Silveira; March 20, 1998, Alejandro Dolina; September 9, 1999, Mariano Grondona.

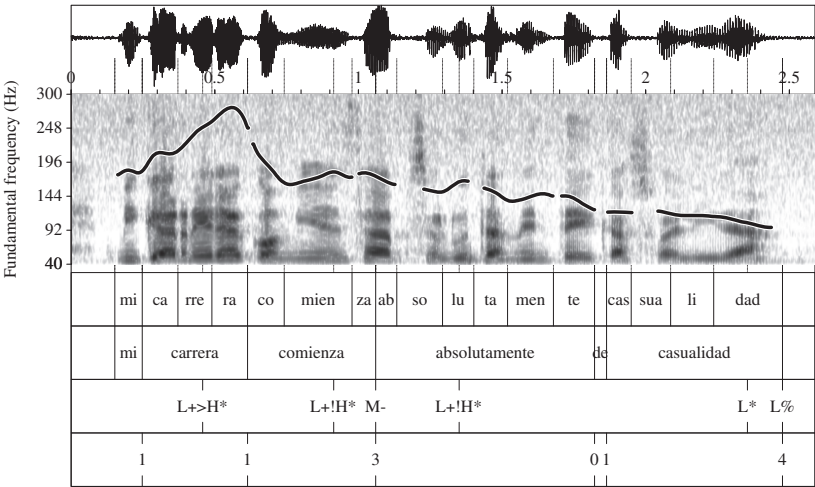


FIGURE 15.3 Waveform, spectrogram and F0 trace of the tone unit ‘Mi carrera comienza absolutamente de casualidad’ (*my career starts by sheer chance*) analysed with PRAAT (Boersma and Weenink, 2010). From top to bottom, the tiers show division into syllables, words, tonal events (pitch accents, phrase accents and tones) and break indexes.

The Spanish spoken in Buenos Aires, the capital of Argentina, appears to have specific characteristics resulting basically from the convergence of varieties of Spanish and Italian due to heavy immigration from Italy at the turn of the 20th century (Colantoni and Gurlekian, 2004; Colantoni, 2010). For instance, pre-nuclear and nuclear pitch accents usually occur within the bounds of the lexically stressed syllable.<sup>3</sup> A common contour in Spanish declarative utterances is a series of (L)+H\* tones uttered with a progressive descending pitch (downstep) towards a L+H\*, H+L\* or L\* nuclear tone, but the degree of final lowering is much stronger in Buenos Aires Spanish than, for example, in Peninsular Spanish (Colantoni and Gurlekian, 2004; Gabriel et al., 2010b) as shown in example (1) and Figure 15.3:<sup>4</sup>

<sup>3</sup>Peninsular Spanish and other varieties of Latin American Spanish typically have a delayed peak, that is, the peak is reached in the post-tonic syllable.

<sup>4</sup>The following transcription conventions are adopted for the examples: tone units are enclosed in slant bars and intermediate phrases in brackets. Capital letters mark prominent syllables, and arrows indicate the pitch movement of the nuclear and boundary tones (the toneme). The line below shows the Sp-ToBI transcription of pitch accents (T\*), phrase accents (T-) and boundary tones (T%). The exclamation sign ! before a tone indicates downstep. The translation into English is on the bottom line.



(1) Silveira: / (mi caRRERa co MIENza) (absoLUtamente de casuali DAD) /

L+>H*	L+!H*M-	L+!H*	$\searrow$ L* L%
<i>My career starts</i>		<i>by sheer chance.</i>	

An important notion in the Spanish tradition, since Navarro Tomás introduced it, has been that of the toneme, which includes the nuclear tone plus phrase accent and boundary tone. (Sosa, 1991, 1999, 2003). As will be seen below, one of the contrasts under discussion makes reference to this notion to explain two different procedural meanings. A complete inventory of tonal choices in Buenos Aires Spanish can be found in Gabriel et al. (2010a).

## 15.5 The Intonational Contrasts

### 15.5.1 The Contrast Between the L+H\* M% and L+H\* L% Configurations: Level vs. Fall

Firstly, this study explores the contrast between the L+H\* M% and L+H\* L% or L+H\*+L<sup>5</sup> L% in the Spanish of Buenos Aires. It assesses the role of the M boundary tone (M%) proposed in Beckman et al. (2002) for certain sentence varieties of Spanish, and adopted by Estebas-Villaplana and Prieto in their 2008 description of Sp-ToBI. The L+H\* M% configuration, where the voice rises for the nuclear tone and goes slightly down at the boundary of the tone unit, but does not reach the speaker's baseline (see Figure 15.4), is frequently found in tone units which sound open-ended or incomplete in this variety. This sequence instructs the hearer to postpone assessment of the relevance of that tone unit until the tone unit(s) to come. In other words, the content of the tone unit in question is 'part of some larger structure which is in the process of being constructed' (House, 2006: 1554).

The content of tone units with the M% boundary tone may supply subsidiary information, that is, information which paves the way for the contextual effects intended by the speaker but is not highly relevant in its own right. This is shown in example (2b), in which the interviewee talks critically about his tendency for cynicism:

(2a) Dolina: A mí siempre me han divertido muchísimo las contradicciones del pensamiento.

*I have always been greatly amused by the contradictions in thinking.*

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<sup>5</sup>The L+H\*+L (tritoneal pitch accent) is an emphatic nuclear accent which is associated with narrow focus statements and exclamations in Buenos Aires Spanish (Gabriel et al., 2010a).

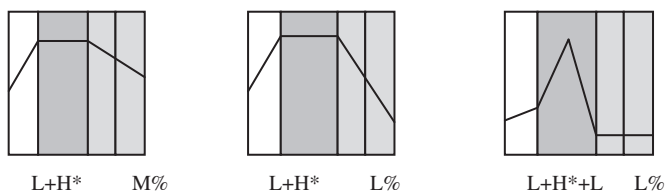


FIGURE 15.4 The contrast between the L+H\* M%, L+H\* L% and L+H\*+L L% nuclear configurations (Estebas-Villaplana and Prieto, 2008; Gabriel et al., 2010a). The diagrams are based on those found on the website of the Grup D'Estudis de Prosòdia, Universitat Autònoma de Barcelona (Borràs-Comes and Sichel-Bazin, 2009).

Esto tiene dos defectos, o un defecto y una virtud, quizás.

*This has two shortcomings, or a shortcoming and a strong point, perhaps.*

(2b)

/ NO toMAR en SErio dema→SIAdo /

ninGUna→COsa /

L+H\* L+H\* L+H\* M%

L+H\* L+H\* M%

*Not taking too seriously*

*anything at all*

In contrast, the L+H\* L% or L+H\*+L L% (high-falling) configurations, which sound complete, indicate that the content of that tone unit completes a sequence of tone units which, if processed together, achieve cognitive effect, for example, by providing a conclusion based on the facts stated beforehand (a contextual implication), as in the continuation of example (2c):

(2c)

/ lo TORna a Uno un poco↗↘FRÍo /

lo TORna a Uno un POco so↗↘FISta /

L+H\*

L+H\*

L+H\*+L L%

L+H\*

L+H\*

L+H\*

L+H\*+L L%

*makes one a little cold*

*makes one a bit of a sophist*

One could argue that in this example, the tone units with a level boundary tone are, in fact, syntactically and semantically incomplete, hence the use of the tone to indicate structural incompleteness. However, as example (3) shows, this tone is also used in tone units which consist of syntactically and semantically complete sentences. It is worth noticing that this characterization of M also applies to the phrase accent at the end of intermediate phrases, as can be seen in the third tone unit below (intermediate phrases are enclosed in brackets).

(3) Dolina

/ yo viVía en una CAsa → GRANde / con una faMilia → GRANde / (mis aBUElos viVían)

L+H\*            L+H\*            L+H\* M%            L+H\*            L+H\* M%            L+H\*            L+H\*M-  
*I lived in a large house            with a large family            my grandparents lived*

(en la MISma casa que mis → PADres) / de ma → NEra que / Eramos mucho ↗ ↘ DUMbre /

L+H\*                            L+H\* M%                            L+H\*            M% H\*                            L+H\*+L L%  
*in the same house as my parents did,            so            we were a crowd*

en esa ↗ CAsa /

L\* M%  
*in that house.*

In this part of the discourse, the interviewee is describing his childhood home as the source of his interest in thinking at the request of the interviewer. This is a case of unplanned, impromptu speech, where the speaker is conceptualizing and developing his ideas as they come to him.<sup>6</sup> He first makes the point ‘I lived in a large house with a large family’, and he uses M% in the two units. The speaker does not seem to be certain as to whether the information he presents is his main point in the discourse. The use of M% reflects, in some sense, the fact that he himself is still sorting out the direction of his response to the interviewer’s question. He distracts himself – and his audience – from his first formulation by explicating what he means by a large family (‘my grandparents lived in the same house as my parents did’), and once again he uses M% (and M- in the intermediate phrases making up this tone unit) because he realizes that this constitutes a lower-level detail which will surely not be his main point. Having noticed where this aside has taken him and his audience, he decides to restate and recap the main point by saying ‘so we were a crowd (in that house)’, a reformulation of the main point, now with L%. The M% (and M-) tones seem to work as signposts encouraging the audience to hold off on investing processing effort, as the speaker himself is as yet uncertain when he will have managed to formulate a major point for which that effort will not be gratuitous. On the other hand, the L% tone might be considered a signal for the audience to invest effort in processing the whole preceding series of tone units together, as the speaker considers he has managed to make a major enough point for significant cognitive effects to be derivable and to offset the considerable processing effort the audience should by now have invested.

<sup>6</sup>This explanation was suggested to me by the anonymous reviewer, and is much more insightful and better explains the pragmatic contribution of M% than my original explanation.

In this example, the first three tone units, made up of grammatically and semantically complete sentences/phrases, provide information which, although new, only supplies the setting for the reformulation in the last tone unit.<sup>7</sup> So the speaker is using M% to indicate to the hearer that the content of those tone units is less relevant on its own than when processed with a tone unit or tone units still to come, and that the most relevant contextual effects should not be computed until at least one L% tone unit is reached. In other words, the most relevant contextual effects will not be achieved by the content in those tone units in themselves, but by those units in conjunction with an eventual tone unit with L%, which, together with the L+H\*+L nuclear tone, constitutes a falling toneme. The incompleteness effect affects the discourse-building process across tone units, rather than the content of individual tone units.

### 15.5.2 The Contrast Between the L+H\* M% and L\* M% Configurations: Level vs. Rise

Secondly, this study analyses the contrast between the L+H\* M%, or level toneme, and L\* M% or rising toneme<sup>8</sup> (Figure 15.5). The two tonemes share the M% tone, so they have in common the processing instruction to consider the content of the tone unit they appear in as not highly relevant in and of itself, but leading to relevant information in tone units that have already come or have yet to come. However, the rising tonal configuration seems to code a different instruction. It indicates to the hearer that the content of the tone unit in which it occurs should be considered as part of the background in which to process the information responsible for triggering the cognitive effects. That information is not essential, as it does not contain the point of the utterance, and could have been omitted, but it is mentioned because it helps the hearer recover the context in which to process the directly relevant information, and thus reduces the hearer's overall processing effort (of memory and inference), so that the utterance is less costly overall (cf. Wilson and Wharton, 2006:1570). Consequently, it may have the effect of a reminder or a summary – at times of explicitly introduced information – and act as the basis on which to introduce further relevant information. The last tone unit in example (3) –

<sup>7</sup>Notice that the conclusion is prefaced by *de manera que* (so, therefore), a connector which guides the hearer to interpret what follows as a conclusion, and is another procedural device to guide inferences.

<sup>8</sup>In the L\* M% configuration, the voice rises from the low-pitched nuclear syllable to a mid-pitch. In Buenos Aires Spanish, this M% contrasts with H%, which is found in yes-no questions (Gabriel et al., 2010a).



FIGURE 15.5 The contrast between L+H\* M% (level), and L\* M% (rise) or L+H\* L–M% (fall-rise) (Estebas-Villaplana and Prieto, 2008; Gabriel et al., 2010a). The diagrams are based on those found on the website of the Grup D’Estudis de Prosòdia, Universitat Autònoma de Barcelona (Borràs-Comes and Sichel-Bazin, 2009).

partially reproduced below – shows an instance of this use of the rising tone, in which the speaker makes reference to his family house, which he introduced at the beginning of the sequence:

- (3)  
/ yo viVía en una CAsa→GRANde / ... / de ma→NEra que / Eramos muche↗DUMbre /  
L+H\* L+H\* L+H\* M% L+H\* M% H\* L+H\*+L L%  
*I used to live in a large house so we were a crowd*  
en esa ↗CAsa /  
L\* M%  
*in that house.*

In this example, the rising (L\* M%) configuration comes after the L% unit to which it applies. It provides an additional assistance to guide the hearer’s processing effort, presumably underway at that stage. It is worth mentioning at this point that a rising configuration can come before or after the falling configuration it provides a background to. Instead, in the data examined the (L+H\* M%) sustained pitch toneme usually occurs before the falling toneme. It is reasonable that it should be so, since providing background information can help at different stages in the discourse. Instead, suggesting to the audience that they should postpone drawing conclusions to save processing effort makes sense only *before* the discourse chunk is completed and processing effort is actually invested.

Example (4) also shows how the rising toneme instructs the hearer to recover a context in which to introduce the directly relevant information. The interviewee is discussing the origin of her acting career. She describes how her family went broke when she was a young

child, and how that crisis led her to take up acting as a source of income for her family:

(4)

Silveyra: /yo era una niña. El segundo matrimonio de mi madre era un odontólogo, Carlos  
*I was a young child. My mother's second husband was a dentist, Carlos*

Alberto Hoff, que teníamos más o menos un buen pasar. Yo iba a un buen colegio, este  
*Alberto Hoff. We had a fairly good standard of living. I went to a good school. Er*

tenía un chofer que me llevaba y me traía / *las fiestas de comunión eran en el Alvear* /  
*I had a driver to fetch me. The communion celebrations were at the Alvear (hotel).*

In comparison with (3), this example seems to be less improvised and better structured. The last tone unit above introduces a sequence of units uttered on a rising tone, which is meant to provide evidence that the interviewee and her family had a fairly good (but not extremely good) standard of living. Once again, through the use of M%, the audience is encouraged to hold off drawing conclusions, for example, that the speaker's communion celebration was held at the Alvear Hotel, too. The speaker wants to save the hearer the extra processing effort of rushing to a conclusion they would have to immediately cancel. The mention of parties at the Alvear (Hotel) is intended to activate in the local audience a scenario of upper-class lifestyle they ought to be familiar with. At the same time, the interviewee hedges her statement by saying that her family did not wholly partake in such a lifestyle, evoking what she has asserted before: 'que teníamos un muy buen pasar' (*we had a fairly good standard of living*).

(4b) 9Sil-005

Silveira: / (las FIEStas de comuNIÓN) (Eran en el AlveAR) /  
 L+H\*                      L+H\* M- H\*                      L\* M%  
*The communion celebrations were at the Alvear (hotel)*

/ NO las MÍas /  
 H\*                      L\*                      M%  
*not mine*

/ (porque NO alcanZAbA para TANto) (lo que teNÍamos noSOTros) /  
 L\*                      L\*                      L+H\* M-                      L+H\*                      L\* M%  
*because what we had was not enough to be able to afford that*

/ (pero teNÍamos) (un MUY buen paSAR) / de CLAsE media ALta /  
 L\* M-                      L\*                      L\* M%                      L\*                      L\* M%  
*but we had a fairly good standard of living                      upper-middle-class-like*

The contrast between the level, rising and falling configurations is further demonstrated by the next part of the sequence. Leaving aside the first tone unit, the second introduces new information, the actress' stepfather's death, which is not presented as highly relevant in itself, but as just a step towards the most relevant information in tone unit four. This is indicated by means of the level toneme. The third tone unit, which states the fact that her mother was not married to her stepfather, can be inferred from the beginning of the same discourse section together with background knowledge. The interviewee states that her mother had a 'second husband', but this happened at a time when divorce had not yet been legalized in Argentina, hence the instruction to process the information 'mama no es su mujer legítima' (*Mum isn't his lawful wife*) in that tone unit as part of the context in which to interpret the most relevant information in the fourth tone unit: 'Nos quedamos sin nada' (*we were left with nothing*). This piece of information follows directly from the previous one: as her mother was not married to him, she could not inherit from him. As could have been predicted, the tone unit with this information has a falling toneme. The information in this unit, in turn, paves the way for the speaker to later introduce the reason why she started acting: to help her family out.

(4c)

/ Y de GOLpe BUEno, / CARlos se→MUEre / mamá no es su muJER le 7GÍtima /

L+>H\*<sup>9</sup> H\* L% L\*      L+H\* M%      L+>H\* L\* M%  
*And suddenly, well, Carlos dies, Mum isn't his lawful wife*

nos queDAmos sin NAda /

↘

L+>H\* L\* L%  
*We were left with nothing*

To sum up, L% (low boundary tone) marks the content of the tone unit as highly relevant, that is, as the unit which completes the sequence and enables the hearer to compute the positive cognitive effects, while M% (mid-level boundary tone) indicates to the audience that they should wait and listen on, since processing each new piece of information step by step in that sequence will cumulatively build up the context in which to derive the intended cognitive effects. In turn, while the L+H\* M% configuration instructs the hearer to treat the content of

<sup>9</sup>The L+>H\* tone is a variety of the L+H\* in which the peak is reached on the post-tonic syllable.

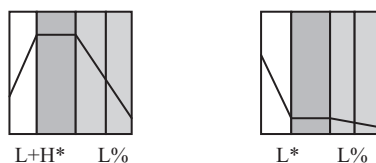


FIGURE 15.6 The contrast between L+H\* L% (high fall) and L\* L% (low fall). The diagrams are based on those found on the website of the Grup D'Estudis de Prosòdia, Universitat Autònoma de Barcelona (Borràs-Comes and Sichel-Bazin, 2009).

the tune unit as leading to relevant information upon completion of a sequence closed by a L%, the L\* M% configuration leads to its interpretation as part of the mutual cognitive environment they share. Alternatively, it is worth considering the possibility that it is the L\* nuclear tone that indicates to the hearer that he should interpret the content as part of the background, and not the whole toneme configuration. If this were the case, then the pitch accents and boundary tones could be considered to encode different procedures, and their combinations could be treated as compositional (see Sections 15.6 and 15.7).

### 15.5.3 The Contrast Between the L+H\* L% and L\* L% Configurations: High Fall vs. Low Fall

The L+H\* L%<sup>10</sup> (high-falling) sequence also contrasts with the L\* L% (low-falling) one (Figure 15.6) to help structure information at a more global level than the one discussed in Section 15.5.2. Both tonal configurations can be used to close a sequence of tone units with mutually relevant information, which will have an impact on the context through the contextual effects they will achieve, but L\* L% usually occurs at the end of declination across tone units and has a conclusive effect which H\* L% seems to lack. It often occurs at the end of a series of sequences with L%, when the speaker has completed a larger section of mutually relevant units.

It is proposed that this configuration instructs the hearer to consider the section in question as finished and relevant in itself. The speaker will go on to consider a different topic, or a different aspect of the same topic, or else, at the end of his turn, yield the ground to his interlocutor. The following tone unit – usually with L+H\* on the first

<sup>10</sup>This also applies to L+H\*+L L%, since the L+H\*+L may well be considered an emphatic variant of L+H\*.



pitch accent – often occurs at a very high pitch, somehow reinforcing discontinuity. Thus, prosody also exploits relative pitch height to signal topic (dis)continuity. Example (5) is an instance of this contrast. At the introduction of the programme, the interviewer asks Argentinean economist Mariano Grondona about an Aristotelian concept he introduces in his recently published book, which he uses to discuss Adam Smith's and Marx's attempts to account for the Industrial Revolution. This extract includes pitch height<sup>11</sup> measured in hertz for the first and last prominent syllable in each tone unit:

(5)

Grondona:

/1 ↘CLARo porque / 2 el MUNdo NO se desarro→LLÓ /3 hasta el Siglo dieciSIETE o dieci Ocho /

H+L*	L%	L+H*	L+H*	L+H* M%	L+H*	L+H*	L* L%
150 Hz		195 Hz		143 Hz	100 Hz		70 Hz
<i>Right because ... the world did not develop</i>				<i>until the seventeenth or eighteenth century</i>			

/4 es decir lo nor ↗MAL /5 era el estanca↗ ↘MIENto económico /

	L+H* M%	L+H*+L	L%
	185 Hz	115 Hz	

*That is, what was normal was economic stagnation*

/6 (el MUNdo) (había logrado Obras maraviLLOsas) (en→ARte) /7 en po→Lítica /

L+>H*M-	L+>H*	L+>H*M-	L+H* M%	L+H* M%
150 Hz			95 Hz	90 Hz
<i>The world had achieved marvellous things</i>			<i>in art, in politics</i>	

/8 pero ... no haBÍa una mentali→DAD / 9 mo ↘DERna /

L+H*	L+H* M%	H+L*	L%
155 Hz	130 Hz	90 Hz	
<i>but there wasn't a way of thinking</i>		<i>which was modern</i>	

/10 y SIN mentalidad mo↗DERna) (no HAY desarrollo económico)/

		L*	L%
L+H*	L+H* M%		
127 Hz	118 Hz	80 Hz	

*And without a modern way of thinking, there is no economic development*

/11 entonces la apo→RÍa es /12 la sorPREsa ante ALgo que está ante los→Ojos/

L+>H*M%	L+H*	L+H*	L+H* M%
156 Hz	145 Hz		160 Hz
<i>So aporime is ...</i>		<i>amazement in the face of something before us</i>	

<sup>11</sup>In L+H\* L%/M% and L+H\*+L L% (falling) tonemes, the pitch height measured is that of the highest point in the tonic syllable. In L\* M% (rising) configurations, also the highest point in the rise is measured. In L+>H\*, in which the peak is displaced to the post-tonic syllable, the post-tonic peak is measured.

/13 y no TIENE explicación/  
 L+H\*                      L+H\*+L L%  
 130 Hz                      200 Hz

*which cannot be explained.*

In order to discuss the Aristotelian concept of *aporime* (meaning perplexity in the face of something one can't understand, from Greek 'no path'), the interviewee explains the reasons why that concept applies to Adam Smith's and Marx's account of economic development in England during the 17th and 18th centuries. He uses falling tonemes in the tone units which present highly relevant information. While high-falling tonemes seem to mark the continuity of sections of discourse, low-falling ones apparently mark the end of a section and the following tone unit usually starts on a very high pitch. The speaker's voice in this extract ranges between 200 and 65 Hz approximately. After the third tone unit in the section above, the voice falls to 70 Hz. Then on the nuclear pitch accent in the next tone unit, it jumps to 185 Hz, thus marking discontinuity between these two tone units. A similar situation is noticeable at the end of tone unit 10, which also has a low fall at 80 Hz, and the first prominence in the next tone unit is located at 156 Hz.

The interviewee provides the information which will help understand the concept of '*aporime*' step by step. In the first three tone units, he introduces the temporal coordinates in which to understand the concept. In the next eight, he expands the information to the cultural achievements and the economic situation of the pre-industrial era, and relates it to the way of thinking as the main factor for economic development to take place. This enables him to introduce the concept of *aporime* and later explain it in relation to the Industrial Revolution. Through the use of the low fall, the speaker organizes his discourse in groups of mutually relevant units which pave the way to introduce further groups to develop the topic under discussion. The pitch height of the first and last prominences in each tone unit is plotted in the chart (Figure 15.7). The dark lines mark the continuity of the sections, while the dotted lines mark discontinuity and change from one section to another.

Evidence in favour of this interpretation can be found in speakers' relative acceptance of interruptions by their interlocutors after a high fall and a low fall. In (6), the interviewee is talking about the roots of his career in his family life. At the end of a sequence, he produces a tone unit with a low-falling toneme, and is interrupted by the interviewer before he can complete the first tone unit in the following sequence. The acceptability of this interruption is confirmed by the interviewee's

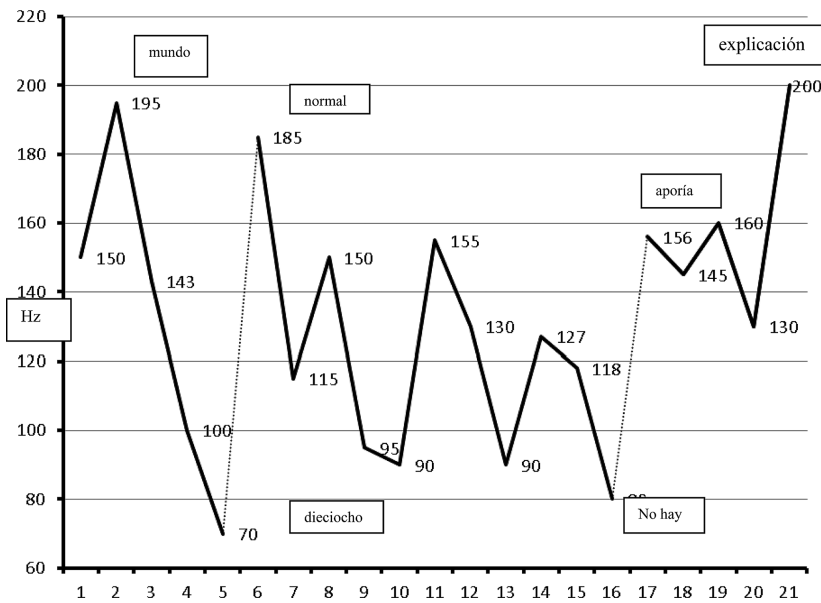


FIGURE 15.7 Pitch height in the first and last prominences of the tone units in (5). The chart shows the organization of the information in three sections, both of which end with a low-falling toneme. The following tone unit starts with a relatively high pitch.

explicit agreement with his interlocutor's interrupting utterance (Claro: *of course*):

(6)  
Dolina: Después estaba la afición de mi madre y de mis tías por la lectura, los comentarios  
*Then there was my mother and my aunts' fondness of reading, the comments*

que hacían de los libros que leían, y una tendencia a divertirse contando historias.  
*they made about the books they read, and a tendency to have fun telling stories.*

/Era GENte ... que saBÍA relatar BIEN /Si YO ... =<sup>12</sup>

L+H\*                      L+H\*                      L\* L%  
*They were people who knew how to tell stories well. If I ...*

<sup>12</sup> = indicates a latched utterance: The next speaker's contribution is followed without a break, but there is no overlap.

O'Donnell: Lo fantástico de contar historias es que necesita alguien que escuche, ¿no es cierto?

*What is great about story-telling is that it needs someone to listen, doesn't it?*

Dolina: Claro.

*Of course.*

In contrast, (7), another instance of an interruption in the same interview, which happens when Dolina is discussing some people's fanatic adherence to ideas, occurs after he has produced a low-falling tone in one unit, and has repeated the same unit with a high-falling tone, thus embarking on a new sequence. The interviewer interrupts him, perceives the unacceptability of this interruption and apologizes for it:

(7)

Dolina: yo no digo que esté mal cierta fe, pero cuando esta fe se dispara pa' el lado de los  
*I'm not saying that some faith is bad, but when it goes awry,*

tomates, / es peli GROsa / .. ... / es peli  GROsa / y Fíjse → SE /

↘

L* L%	H+L* L%	L+H* !H* M%
72 Hz	122 Hz	232 222 Hz
<i>it's dangerous,</i>	<i>it's dangerous,</i>	<i>and just look ...</i>

O'Donnell:

Hay una frase  
*There is a phrase*

Dolina: ¿Sí?

*Yes?*

O'Donnell: Hay una frase muy bella / discúlpeme que lo interrumpí / de un muy buen ...

*There is a very beautiful phrase, excuse me if I interrupted you, by a very good ...*

If the L\* L% (low-falling) toneme is followed by a pause of silence, then either the speaker himself can start a new sequence or his interlocutor can claim the ground. To sum up, the high-falling configuration in Argentinean Spanish instructs the hearer to treat the content of the tone unit and preceding tone units (possibly including all those since the last occurrence of a falling configuration), taken together, as being particularly worthy of an investment of considerable processing effort, suggesting that strong cognitive effects are now readily attainable for such effort, and that there is more relevant information to come in that sequence. Informally, it can be paraphrased as 'there you are, and moreover ...' Instead, the low-falling configuration brings a sequence to an end, and can be paraphrased as 'there you are, and that's all.' The speaker can now embark on a new topic, or on another aspect of the same topic.

## 15.6 Discussion

The contrast between the level vs. fall configurations described in Section 15.5.1 to signal continuity vs. finality in Buenos Aires Spanish declarative sentences has been described in Toledo (2008a) and in Toledo (2008b). Toledo (2008c, d) further extends this research to other varieties of both Peninsular and Latin American Spanish. His research is carried out at the level of the intermediate phrase and the sentence. He finds that if a sentence is separated off into two intermediate phrases, the first has a H- phrase accent to signal continuity, whereas the second has L- to signal finality, and the two intermediate phrases, which make up an intonation phrase, end in a L% boundary tone. Gabriel et al. (2010b) also discuss phrasing in Buenos Aires Spanish SVO sentences read aloud, and find that the continuation rise and sustained pitch are the two most frequent tonal cues at the end of an incomplete intermediate phrase. Both Toledo and Gabriel et al. analyse tone choices in terms of the High-Low contrast, and therefore do not consider the possibility of there being both a M- phrase accent and a M% boundary tone, and consequently they do not consider the possibility of continuity vs. finality configurations occurring across intonation phrases.

Cross-linguistically, falling intonation has regularly been considered a linguistic device associated with the act of asserting, while rising intonation has been connected with asking. Furthermore, rising intonation has been taken to be a characteristic of unfinished utterances, while complete utterances have been associated with falling intonation. The continuation rise has been considered to be an important factor in marking the end of a prosodic phrases which sound incomplete in Peninsular Spanish, Catalan and Italian<sup>13</sup> (D'Imperio et al., 2005; Frota et al., 2007), usually separating the subject of the sentence from its predicate and yielding a (S) (VO) syntactic configuration. This is also the case of sustained pitch, especially for Peninsular Spanish and Italian. Once again, these studies deal with SVO sentences read aloud, rather than discourse.

A much-debated issue in intonation studies has been to which units to assign meaning. Studies of English intonation have had a pioneering role in this respect, and English intonation has mainly been

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<sup>13</sup>In Frota et al. (2007), the continuation rise in Catalan and Peninsular Spanish is transcribed as L+H\* H% or L\*+H H%. However, the authors claim that nuclear accent type and continuation rise are independent choices, and different languages combine them in different ways.

studied from two different standpoints. The British School has traditionally approached intonation from a configurational point of view, while the American School has preferred a treatment of prosody in terms of levels. A main point of debate is whether intonational meaning should be seen as attached to individual elements or to configurations. We will now briefly look at two well-known treatments of intonation as a discourse phenomenon that favour a configurational approach and one approach that takes a levels approach.

One treatment, that of Brazil (1985) and Brazil et al. (1980), bases its characterization of British English intonation on the notion of common ground. The fall-rise presents the content of the tone unit in which it occurs as a nuclear tone as part of the already negotiated common ground. The fall introduces the content into the common ground as world-changing; it is used to 'tell' hearers about something that will change their world view. The rise also represents the content of a tone unit as part of the common ground, but a speaker who uses it is said to claim dominance<sup>14</sup> in virtue of his social role. The level tone is part of an oblique orientation in discourse,<sup>15</sup> and is used when tone unit boundaries do not occur at points of potential completion to highlight the continuity of the language. Falling tones are also used in an oblique orientation to signal completion.

Similarly, Gussenhoven (in Ladd, 1996) characterizes intonational meaning for British English in terms of the status of information with respect to shared background. He proposes that a HL (fall) is used to introduce an entity into the background of shared knowledge, and thus is used as the basic statement intonation. LH (rise) represents the speaker as non-committal as to whether an entity is part of the background, hence it is the basic question intonation. HLH (fall-rise) is used to select an entity from the background.

Pierrehumbert and Hirschberg's (1990) theory of intonational meaning in American English is based on the tenet that tunes are used to specify the relationship between the propositional content in the intonational phrase and the mutual beliefs<sup>16</sup> of discourse participants, and to signal relations across tone units. Unlike the previous two

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<sup>14</sup>A speaker dominates in the interaction in non-symmetrical verbal encounters, such as that between a teacher and a student, or a doctor and a patient.

<sup>15</sup>In an oblique orientation, the speaker focuses on the linguistic items as language samples and not as part of his contribution towards the common ground (Brazil, 1985).

<sup>16</sup>The mutual beliefs of participants are defined as 'those beliefs which conversational participants come to believe to be shared amongst them as a direct result of the conversational interaction' (Pierrehumbert and Hirschberg, 1990).

approaches, it adopts a compositional approach to intonational meaning based on the A-M theory. Each component in the system (pitch accents, phrase accents and boundary tones) is interpreted with respect to their distinct phonological domains, and each contributes a distinct type of information to the overall interpretation of a tune. Phrase accents convey information at the level of the intermediate phrase: H indicates that the current phrase is to be taken as part of a larger interpretive unit with the following phrase, while L emphasizes the separation of the current phrase from the following one. Likewise, boundary tones have scope over the whole intonational phrase: H% indicates to the hearer that the speaker wants him to interpret the utterance in question with reference to following utterances, while L% instructs him to pay attention to previous utterances. Pitch accents convey information about the status of individual entities in the discourse to indicate their relative salience. A H\* accent indicates that the item is new and should be added to the hearer's mutual belief space, while a L\* instructs the hearer to consider the item not part of what the speaker is predicating, and may signal that the item is already part of the hearer's mutual beliefs. Pierrehumbert and Hirschberg also examine configurations of nuclear tone, phrase accent and boundary tone and their interpretation. For example, a falling configuration, H\* L L%, is used when the speaker's goal is to convey information; a plateau contour, H\* H L%, is used to elaborate on some previous statement by providing support or detail; and a falling-rising configuration, L+H\* L H%, is used to represent the information as part of the background.

As regards structured sequences of tone units, Brazil (1985) has the pitch sequence as the stretch of speech which ends with a low pitch and which is not mechanically determined, but a result of the speaker's choices. The following sequence starts on a high pitch to show the greatest possible disjunction and independence. Pierrehumbert and Hirschberg discuss final lowering as a choice independent from downstep and pitch range, in which 'the pitch range in declaratives is lowered and compressed in anticipation of the end of the utterance' (Pierrehumbert and Hirschberg, 1990). Hirschberg and Pierrehumbert (1986) hold the view that pitch range variation in English can signal the hierarchical structuring of discourse, and the degree of final raising or lowering at the end of phrases can indicate the degree of (dis)continuity between discourse chunks.

Despite remarkable similarities in the type of meanings attributed to intonation, the three approaches above also show divergent views as to what units to attach meaning to, whether whole configurations or components. Ladd points out that there has been little debate on the

issue of intonational meaning because there is no agreed-on theoretical framework within which to make comparisons, and this is due to the fact we know too little about pragmatic inference. However, Relevance Theory is a promising cognitive approach in which inference plays a major role, and within which progress has been made in this respect.

According to Wilson and Wharton (2006) and House (2006), properly prosodic signals like lexical stress, sentence stress and intonation can be analysed as procedural facilitators of the recovery of certain syntactic, semantic or conceptual representations. In other words, the notion of procedural encoding provides a particularly fruitful way to explore the meaning of prosodic inputs.

Escandell-Vidal (1998) establishes the following criteria to assess whether intonational phenomena should be considered procedural:

- a. Procedural information is encoded, that is, stipulated in the grammar, and consequently it is non-cancellable. The contribution of a given intonational pattern should not vary from situation to situation.
- b. The contribution of each contour is systematic: each contour transmits a particular piece of computational information in a systematic way. The coded instruction forces the hearer to interpret the utterance as if it were of a particular class. It does not say how it really is. To use a procedural expression adequately, we do not need to know how the events are, or what the objective relationship between events is. We just have to look at our internal representations and express how we see them, or how we want our audience to see them. In other words, procedural expressions do not describe the world as it is, but they create a world in which entities, states and events must be conceived as they are presented by the speaker.

The intonational phenomena analysed in this chapter meet these criteria. In Buenos Aires Spanish, the Low boundary tone, and the tonemic configurations it is part of, that is L+H\* L% and L\* L%, always make the tone unit they are part of particularly salient and associate it with the act of asserting because they indicate that the propositional content will have positive cognitive effects, thus enlarging the mutual cognitive environment of speaker and hearer. They indicate that those utterances will satisfy the expectations of relevance by triggering off effects which make them optimally relevant. On the other hand, a Mid boundary tone, and the tonemic configuration L+H\* M%, invariably indicates to the hearer that *per se*, that tone unit may not satisfy the hearer's expectations of relevance, and that assessment of



relevance should be postponed until a tone unit with a L% is reached. Of course, a hearer may decide to invest effort earlier, before a L% tone is reached, in order to anticipate the speaker's main point, hoping to keep down processing costs in this way, but he will do so at his own peril, choosing a different route than that signposted by the speaker through his use of M%.

A L\* M% configuration also indicates that optimal relevance will be attained later in the discourse, but in this case, the speaker is instructing the hearer to entertain the content of the current tone unit as part of the background or context in which to process the information that will bring about the cognitive effects. If a speaker used L% on tone units which are not highly relevant *per se*, for example, this would lead the hearer to incur an effort which would not be rewarded by the expected cognitive effects: in other words, that piece would not satisfy the expectations created by the speaker. Likewise, if a speaker stopped short at M% without reaching a tone unit ending in L%, the expectations he had raised would not be fulfilled. Consequently, linguistic intonation helps the hearer by guiding him how to take the propositional content of individual tone units and how to reach global relevance by saving him processing effort.

Similarly, someone who hears a L+H\* L% or L+H\*+L L% (high-falling or rising-falling tonemes) will process the utterance as highly relevant, but will expect other relevant information to follow, until a L\* L% configuration is reached, thus exploiting pitch range to signal discourse structure. A speaker who used L+H\* L% when he meant to conclude a section of discourse would indicate to the hearer that there was more to come, and the expectations created would not be fulfilled. If he used L\* L% when he intended to include further relevant information in the current section, he would likewise be misleading the hearer, who would incur extra processing effort for no positive cognitive effects.

As Relevance Theory predicts, a communicator who wants to be understood will try –within the bounds of his capabilities and preferences – to make the ostensive stimulus as easy as possible for the audience to understand. The audience, in turn, will follow a path of least effort in processing the ostensive stimulus, and compute cognitive effects in the order of their accessibility until a level of optimal relevance is attained (Wilson and Sperber, 2004). Intonational contrasts like the ones analysed in this chapter are part of the ostensive stimulus, and will assist the communicator in this task by indicating to the audience how individual tone units contribute to the overall relevance of the utterance,

which tone units provide a context in which to process directly relevant information and which tone units provide highly relevant information. These instructions will help the audience to attain optimal relevance.

## 15.7 Conclusion

This chapter has argued for a procedural treatment of tone choices in the discourse of the Buenos Aires variety of Spanish within the perspective offered by Relevance Theory.

It is beyond its scope to solve the issue of whether intonational meaning should be linked to individual elements or to configurations, but it seems that relevance is pursued both at the local level of the tone unit and at a global discourse level. Therefore, certain pitch accent, phrase accent and boundary tone choices may be used to guide the hearer at a more local level, while toneme configurations (nuclear tone + phrase accent + boundary tone) may do the same at a more global level, defining the role of sequences of tone units. If this were the case, then this line of argument would lend support to the Pierrehumbert and Hirschberg compositional approach to intonational meaning.

A procedural treatment within Relevance Theory offers several advantages. Firstly, it provides a framework within which notions such as common ground, background information, context, etc. are made fully explicit. It clarifies the nature of coding and inference and their role in utterance interpretation. Furthermore, it assesses the role of processing effort in utterance interpretation, and thus it clarifies the role of procedural expressions and how they guide the inferential phase of communication. In other words, Relevance Theory offers a way to face up to the Ladd challenge discussed in Section 15.6.

Intonation is viewed as part of the communicator's ostensive stimulus: tone choice is a resource the speaker uses to make the stimulus as easy to process as possible. Guided by choice of tone, the hearer will follow a path of least effort in computing cognitive effects. The prosodic stimulus will have made the intended interpretation more accessible, putting the linguistic stimulus in the right perspective according to the speaker's abilities and preferences, and the hearer will stop at the first interpretation consistent with the expectations of relevance created by the utterance.

The phenomena discussed in this chapter fit well with the translational/non-translational distinction made by Wharton (2003b, 2009). According to Wharton, the conceptual/procedural distinction is a

particular instance of this more general one. Translational encoding leads to concept activation by the use of expressions that translate them, while in non-translational encoding, concepts are activated by leading the audience to an inferential route which results in a conceptual representation. Prosodic inputs pattern with the second type of encoding.

Although intonation encodes specific instructions to guide the audience towards the intended interpretation, it is worth remembering that it is just one of the different components of the ostensive stimulus: other prosodic phenomena, both linguistic and paralinguistic, such as tone of voice, pitch range and voice dynamics, together with non-vocal effects, such as gesture and posture, all contribute to conveying the communicator's message and attitude.

Wilson and Wharton (2006) propose a framework which integrates different types of prosodic inputs – from natural signs to natural signals and linguistic signals – and accounts for the way they contribute to communication. Therefore, it opens a promising avenue for an integrated treatment of ostensive inputs to better understand how decoding and inference combine to yield a hypothesis about the communicator's informative intention.

The use of authentic data from spoken discourse also provides a point of intersection for a cognitive-pragmatic theory such as Relevance Theory and theories of discourse-structure building,<sup>17</sup> as it calls for consideration of the speakers' complex processes of putting thoughts into words in unplanned speech, the speakers' awareness of and conscious management of the audience's processing effort to work out their main communicative intentions and the audience's awareness of the speaker's fine-tuned effort management.

Through the analysis of data from Buenos Aires speech, I hope to have shown some of the prosodic resources speakers of this dialect of Spanish use to guide hearers to the most relevant interpretation of their utterances both at a local and at global level in discourse. I also hope to have proved that the treatment of intonation as procedural encoding helps pinpoint the meaning of these resources, and how prosodic items help signal continuity, discontinuity and structure as a manifestation of the search for optimal relevance. I believe that Relevance Theory provides a useful framework for a fine-grained analysis of discourse structuring through prosodic phenomena, and it can liaise with discourse-structure theories in meaningful ways to yield interesting

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<sup>17</sup>As pointed out in Footnote 6, once again, I am indebted to the anonymous reviewer of this chapter for drawing my attention to this fact.

results. I hope this chapter has contributed to the study of intonational meaning both at a cognitive-pragmatic level and at a discourse level.

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