Argentinian Spanish Intonation[*]

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1. Introduction

Argentinian Spanish intonation has been the focus of intensive research, at least since the second half of the 20th century. Overall, this research has centred around one variety, i.e. Buenos Aires or 'porteño' Spanish, and on one type of sentence, namely declaratives, with a particular emphasis on broad focus declaratives. We also draw on this tradition in concentrating on *porteño* Spanish only; we nevertheless extend the database by considering sentence types and utterances other than declaratives.

Early auditory descriptions observed that Buenos Aires Spanish declaratives differed from those found in other Argentinian Spanish varieties in terms of the absence of bitonal accents, the small difference in pitch between stressed and unstressed syllables and the steep final fall (Fontanella de Weinberg 1966, 1980). As opposed to Buenos Aires Spanish, Córdoba Spanish is characterised by longer pretonic or tonic syllables associated with a tonal change within the same lengthened syllable (Fontanella de Weinberg 1971, Vidal de Battini 1964). A more comprehensive, albeit less detailed description of Argentinian Spanish varieties can be found in Vidal de Battini (1964), where the author points out that North-Eastern Argentinian Spanish differs from Buenos Aires Spanish by the absence of a fall in declaratives and that in Western and Central varieties, such as those spoken in the provinces of Mendoza and San Juan, pitch accents are characterised by their height and the length of the stressed syllable. Crucially, Vidal de Battini is the first linguist to observe that Buenos

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Aires Spanish intonation had changed around the turn of the 20th century due to contact with Italian (for a non-linguistic perspective on that issue see Borges 1944).

Recent instrumental work within the Autosegmental-Metrical (AM) model of intonation (e.g. Pierrehumbert 1980, Ladd 1996) has largely confirmed the findings of these previous studies. All studies consistently report that the peak in prenuclear accents is overwhelmingly located within the stressed syllable (Toledo 2000, Colantoni and Gurlekian 2004, Gabriel 2006, Labastía 2006, Enbe 2009, Gabriel, Feldhausen and Pešková 2009), and that the final contour is characterised by a steep fall (Kaisse 2001, Colantoni and Gurlekian 2004). Broad focus declaratives differ from narrow focus ones in the alignment and height of the F0 peak, which happens earlier for the latter (Barjam 2004, Gabriel 2006, Gabriel et al. 2009). Narrow focus utterances, however, deserve further study because contradictory findings have been reported. For example, while the aforementioned authors found differences in peak alignment between broad and narrow focus, Toledo (1989) considers that intensity is a more reliable cue for focus than peak alignment.

Several recent studies (Barjam 2004, Enbe and Tobin 2008, Enbe 2009, Lee, Martinez-Gil, and Beckman 2010) have also looked at the intonational patterns of absolute and wh-questions. These studies, however, usually treat these two classes of questions as a whole and do not make clear distinctions between subtypes. Regarding the former type of questions, authors agree that they start with an initial rise (Sosa 1999, Barjam 2004), but different types of final contours have been reported. Sosa (1999) observes that Buenos Aires yes-no questions end with a high boundary tone, whereas Barjam (2004) reports a low boundary tone. Lee (2010) finds both patterns and suggests that both the high and the low boundary tone can be used in absolute interrogatives (i.e. yes-no questions). Furthermore, she argues that for those speakers who generally produce absolute interrogatives with low boundary tones, the presence of the final rise may be a case of truncation, since the H tone is present only in examples that finish with an oxytonic word (see also Toledo and Gurlekian 2009 for a similar assumption).[1] In addition, Lee et al. (2010) investigate different types of yes-no questions and argue that the main difference between certain subtypes such as (pragmatically neutral) information-seeking and (pragmatically marked) presumptive interrogatives lies in the global pitch range effect, the latter displaying a larger pitch range than the former.

Differences in the final contour of wh- questions have also been reported. According to Barjam (2004), this type of question is characterised by deaccenting in nuclear position and a final falling contour, whereas Enbe and Tobin (2008) report variation between falling, rising and falling-rising contours. In their study, in which sociolinguistic variables such as age and gender are controlled, women overwhelmingly prefer rising contours, followed by the group of younger males. For older males, on the other hand, circumflex contours are the most frequent pattern. For all groups, falling contours are the least frequent pattern, which is a striking difference when compared to Barjam's results.

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[1] This variation, however, deserves further sociolinguistic investigation given the different patterns found by Enbe and Tobin (2008) for wh- questions.

Very little is known about the intonational contours of exclamative statements. To our knowledge, the only instrumental study describing this type of utterance is the work by Enbe and Tobin (2008). This study, however, analyses one sentence consisting of only one word (*gol*, 'goal'). Results indicate that most of the speakers produce a falling contour.

Although these experimental descriptions have focused on Buenos Aires Spanish, there have been several instrumental analyses of other Argentinian Spanish varieties (Colantoni 2005, 2011). These studies reported clear differences in broad focus declaratives among several varieties, including Buenos Aires, North-Eastern, Western and Central Argentinian Spanish. The main dialectal differences seem to be in the alignment of the trailing tone and the slope. Western Argentinian Spanish shows the highest proportion of low tones aligned within the syllable, whereas North-Eastern Argentinian Spanish shows the smallest. In terms of durational differences, the former variety exhibits the strongest tendency for lengthening of the stressed syllable, whereas Buenos Aires Spanish shows more final lengthening. Interestingly, other recent studies show that variation is not limited to the geographical domain. Indeed, different contour patterns have been reported for Buenos Aires Spanish declaratives, questions and commands depending on the variables of gender and age (Enbe and Tobin 2008, Enbe 2009).

In summary, previous studies coincide in the description of nuclear and prenuclear accents in Buenos Aires Spanish broad focus declaratives, but fewer studies have analysed the contrast between broad and narrow focus declaratives. As for questions in general, it is not clear whether the differences reported could be attributed to different methodologies (i.e. different subtypes of yes-no questions or wh- questions being elicited) or if instead the differences are the result of sociolinguistic variation. Finally, exclamative statements are a relatively unexplored territory. Other remaining issues involve the role that contact with Italian has played in shaping Buenos Aires intonation (Vidal de Battini 1964, Colantoni and Gurlekian 2004, Feldhausen, Gabriel and Pešková 2010, Gabriel, Feldhausen and Pešková 2011), and the role played by duration (see Kaisse 2001) in accounting for some of the differences observed between Buenos Aires Spanish and other Spanish varieties.

Our goal here is not to extend the empirical coverage in the description of Argentinian varieties but to offer a more comprehensive analysis of Buenos Aires Spanish intonation, which will include a variety of utterance types. As such, our claim is to fill the gap in the description of declaratives, different types of questions and exclamative statements. The chapter is organized as follows. In section 2 we present the tonal inventory of Buenos Aires Spanish. Section 3 is devoted to the basic intonational patterns of this variety. We then concentrate in turn on statements (section 3.1), questions (section 3.2), imperatives (section 3.3) and vocatives (section 3.4). Concluding remarks and an overview of the nuclear configurations are given in section 4.

2. Argentinian Spanish intonational phonology

The aim of this section is to present the inventory of pitch accents (section 2.1) and boundary tones (section 2.2) found in Buenos Aires Spanish. We propose a notation which is consistent with the Sp_ToBI labels suggested in Beckman, Díaz-Campos, McGory and Morgan (2002) and revised in Estebas-Vilaplana and Prieto (2009) as well as in the online

training materials for Spanish ToBI labelling made available by Aguilar, de-la-Mota and Prieto (2009). In the subsequent section (3), we will provide the reader with specific examples of the most common tonal patterns in Buenos Aires Spanish taken from our empirical data.

2.1. The pitch accents

Estebas-Vilaplana and Prieto (2009) and Aguilar et al. (2009) propose two monotonal and four bitonal pitch accents (L*, H* and L+H*, L+>H*, L*+H, H+L*, respectively) for Spanish. Their analysis is based on the varieties spoken in Madrid, Sevilla and Mexico City. Our data show that five of these six pitch accents, i.e. L*, H*, L+(i)H*, L+>H* and H+L*, can also be assumed for Buenos Aires Spanish. Nevertheless, they are not sufficient for describing all the tonal movements that occur in this variety. We therefore propose a supplementary tritonal accent (namely L+H*+L) in addition to the pitch accents suggested in Estebas-Vilaplana and Prieto (2009) and Aguilar et al. (2009). As will be shown in detail in section 3.1.2., the shape of some *porteño* accents requires the introduction of such a tritonal unit, involving two low (L) tonal targets besides a H* target in order to account for the fact that the contour rises and falls within the limits of the metrically strong syllable.

As already pointed out in section 1, earlier AM-based descriptions (Barjam 2004, Colantoni and Gurlekian 2004, Gabriel 2006) of the *porteño* intonational system have shown that this variety is characterised by prenuclear accents realized as a rising accent with an 'early' pitch peak within the accented syllable (L+H*). This realization contrasts significantly with the one found in Castilian Spanish: Hualde (2002, 2003) shows that L+H* is the typical nuclear accent in Castilian Spanish, while prenuclear accents usually surface as rising accents which reach their F0 peak in the posttonic syllable (traditionally labelled as L*+H and dubbed 'late' peaks). This pitch accent realization is labelled L+>H* in recent studies (see Estebas-Vilaplana and Prieto 2009, this volume, and Aguilar et al. 2009), and we adopt this labelling for our purposes. Furthermore, Buenos Aires Spanish also exhibits a falling pitch accent H+L*, which has also been proposed in Beckman et al. (2002) for the description of Castilian Spanish and which constitutes, together with a low boundary tone (L%), the unmarked final nuclear contour in Buenos Aires Spanish broad focus declaratives.

Table 1 summarizes the pitch accents we assume for the analysis of Buenos Aires Spanish.

Table 1: *Inventory of monotonal and bitonal pitch accents in Argentinian Spanish and their schematic representations*

Monotonal pitch accents

	L*	This pitch accent is realized as a low plateau at the low level of the speaker's range. It typically occurs as a nuclear accent in broad focus statements, alternating with H+L* (see below). It is also found in the post-wh sequence of wh- questions.
	H*	This pitch accent surfaces as a high plateau without any preceding F0 valley. It occasionally occurs as a prenuclear accent in different sentence types, in most cases at the very beginning of the utterance.

Bitonal pitch accents

	L+H*	This pitch accent is realized as a rising F0 movement during the metrically strong syllable with the F0 peak located at its end. It typically occurs in prenuclear position in statements as well as in questions. It is also realized in nuclear position in vocatives and yes-no questions with final oxytonic words, among others.
	L+¡H*	This pitch accent is realized as a rising F0 movement during the metrically strong syllable with an upstepped F0 peak located at its end. It typically occurs in nuclear position in different types of yes-no questions.
	L+>H*	This pitch accent is realized as a rising F0 movement during the metrically strong syllable with its F0 peak aligned with the posttonic syllable. It occasionally occurs in prenuclear positions of different sentence types.
	H+L*	This pitch accent surfaces as a F0 fall within the temporal limits of the metrically strong syllable. In our data it occurs as a nuclear accent in broad focus statements and commands.

Tritonal pitch accent

	L+H*+L	This pitch accent displays a rising-falling pattern within the metrically strong syllable. It typically occurs in nuclear position and in utterances with a contrastive or emphatic reading.

2.2. The boundary tones

Two issues have been discussed extensively in the recent literature on intonational phonology: First, how many levels should be assumed in the prosodic hierarchy with respect to prosodic boundaries? More precisely, is there an intermediate phrasal (ip) level below the IP level? Second, how complex are boundary tones and how many tonal levels (low, mid, high) does their representation necessarily involve? Given that an exhaustive discussion of these general questions would undeniably go far beyond the scope of the present chapter, we confine ourselves to referring to Estebas-Vilaplana and Prieto's (this volume) concise description of the current state of the art and concentrate on tonally marked boundaries in Buenos Aires Spanish. Besides the statements on final F0 contours made in general studies on *porteño* intonation (e.g. Sosa 1999, Barjam 2004), very little work has been done on the realization of tonal boundaries in this variety of Spanish.[2] While Gabriel et al. (2011) deal with the realization of intermediate phrasal boundaries (break index 3) and address speakers' phrasing decisions in different types of broad focus SVO declaratives, the focus here lies on detecting possibly contrasting nuclear configurations and determining their

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[2] Kaisse (2001) constitutes an exception in explicitly addressing the so-called 'long fall', a special contour occurring immediately before the very last boundary in an utterance. In addition, Toledo (2008) and Gurlekian and Toledo (2009) investigate the influence of prosodic boundaries on the realization of preceding pitch accents.

specific pragmatic meaning. We therefore concentrate on the tonal movements occurring at the very end of the utterance (break index 4). Table 2 summarizes the boundary tones we assume for the present analysis, i.e. three monotonal and one bitonal.[3]

The different nuclear configurations (usually called *tonemas* in the Spanish tradition), which are characteristic of different sentence and clause types as well as special pragmatic readings, arise from the potential combinations of a given boundary tone T% with a preceding pitch accent (see section 3 for a detailed description of the various possible combinations).

Table 2: *Inventory of monotonal and bitonal boundary tones in Argentinian Spanish and their schematic representations*

Monotonal boundary tones

	L%	The final contour is characterised by a low sustained or falling tone at the speaker's baseline. It occurs at the end of all kinds of neutral and biased declaratives, questions, imperatives and vocatives.
	M%	The final contour is characterised by a slightly rising or falling F0 movement towards a mid target. It is attested, for example, in uncertainty statements, counterexpectational echo wh- questions and certain types of vocatives such as tentative calls.
	H%	The final contour is characterised by a more or less rising F0 movement after a H or L pitch accent. It typically occurs in questions ending in oxytonic words.

Bitonal boundary tone

	HL%	The final contour is characterised by a F0 peak with a subsequent fall. In our data, it constitutes the typical final boundary tone in different types of yes-no questions, in vocatives and in requests.

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3. Basic intonational patterns in Argentinian Spanish

This section is devoted to presenting the basic intonational tunes for a variety of sentences in Buenos Aires Spanish. The recordings analysed were made during a field trip to Argentina in November and December 2008. Our methodology is based on the guided questionnaire used by Prieto and colleagues for their comprehensive investigation of Catalan intonation (see Prieto 2001: 374-378, Prieto and Cabré 2010). Using this inductive method the interviewer presents a series of situations to the subjects and then asks them to react appropriately. Our Argentinian adaptation of the guided questionnaire slightly differs from the original version and consists of 48 situations altogether. It can be found in the *Atlas*

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[3] It is worth pointing out that Feldhausen et al. (2010) and Gabriel et al. (2011) report on a further complex boundary tone in Buenos Aires Spanish, namely LH, which occurs in sentence-internal position in their data (break index 3). In the data analysed for the present study, it was not found at break index 4.

interactivo de la entonación del español (Prieto and Roseano coords. 2009-2010). Whereas 25 native speakers of *porteño* Spanish were recorded in total, this chapter presents only the most representative examples from our corpus. Perceptual and acoustic analyses of the utterances were carried out by using Praat (Boersma and Weenink 2010).
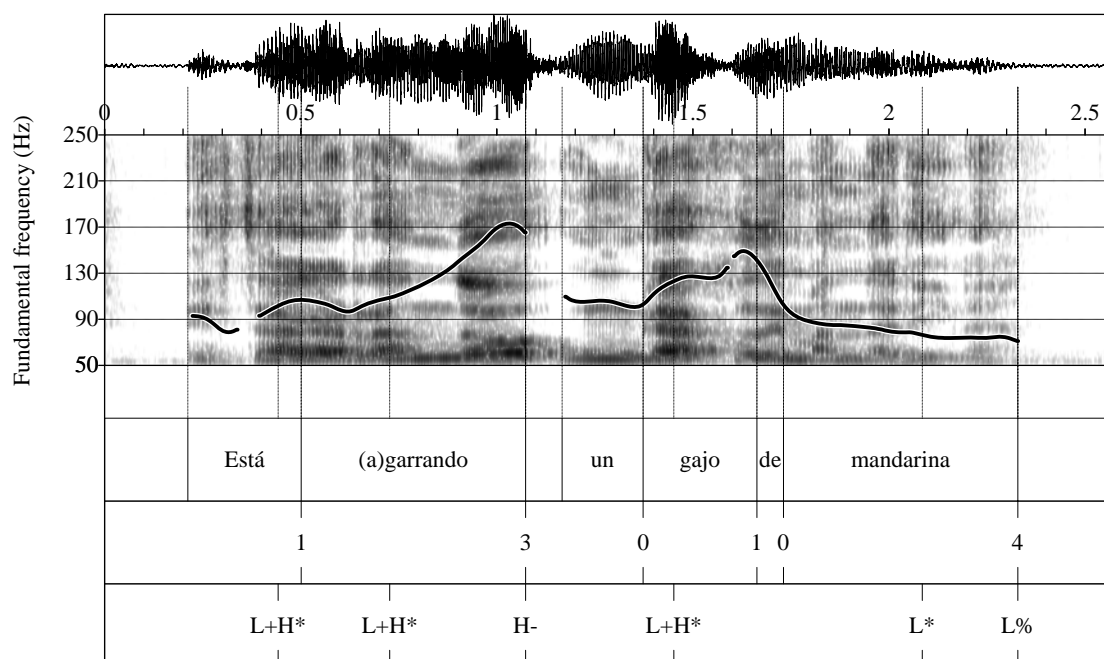
3.1. Statements

3.1.1. Broad focus statements

The typical prenuclear accent of a statement with a broad focus intonation is a L+H* pitch accent (e.g. on *gajo* 'segment' in figure 1). Both the rising trajectory and the F0 peak of this accent are realized within the accented syllable. The nuclear accent in this sentence type surfaces either as a low pitch accent L* (figure 1) or as a falling accent H+L* (figure 2). Both nuclear accents are followed by a L% boundary tone. In both figures, the nuclear accent is located on the penultimate syllable of *manda̱rina* 'tangerine'. In figure 1, the F0 contour does not show any significant pitch movement on *-ri-* but is part of the progressive fall beginning after the last prenuclear accent L+H* located on the penultimate syllable of *ga̱jo*. In addition, the example given in figure 1 displays a break index 3 boundary of the type H- between the gerund and the object.

In figure 2, by contrast, the pitch contour on the metrically strong syllable of *manda̱rinas* slightly rises at the beginning, then falls throughout the rest of the tonic syllable, and is perceived as a falling accent (H+L*).

3.1.2. Biased statements

3.1.2.1. Narrow focus statements

The typical nuclear accent of statements with a contrastively focused constituent in clause-final position has a clear F0 peak in the centre of the accented syllable. The peak is preceded and followed by a valley, i.e. the F0 contour rises and falls within the metrically strong syllable. We describe this tonal movement by means of the tritonal pitch accent L+H*+L. An example is given in figure 3 for the utterance *No. ¡Na̱ranjas!* 'No, oranges', in which the word *naranjas* constitutes the correction of a wrongly interpreted item. The contour rises from a low target at the beginning of the syllable *-ran-*, reaches its peak in the centre of the vowel and then falls to a low target at the end of the syllable. In order to clearly illustrate the rise and fall within one syllable we integrated a syllabic tier in figure 3 (a syllabic tier is also given in figures 5, 6 and 12 for the same purpose). After L+H*+L in figure 3, the contour remains low on the posttonic syllable and merges into the final low boundary tone L%. The steep fall after the peak indicates that there is a low target at the end of the stressed syllable, which provides strong evidence for a nuclear configuration L+H*+L L% instead of L+H* L%. Assuming the latter, the phonetic interpolation between H* and L% would simply cause a soft fall throughout the posttonic syllable (as can be seen in figure 30 for the sharp summons). Interestingly, the first intonation unit (*no*) is produced with exactly the same nuclear configuration (L+H*+L L%).
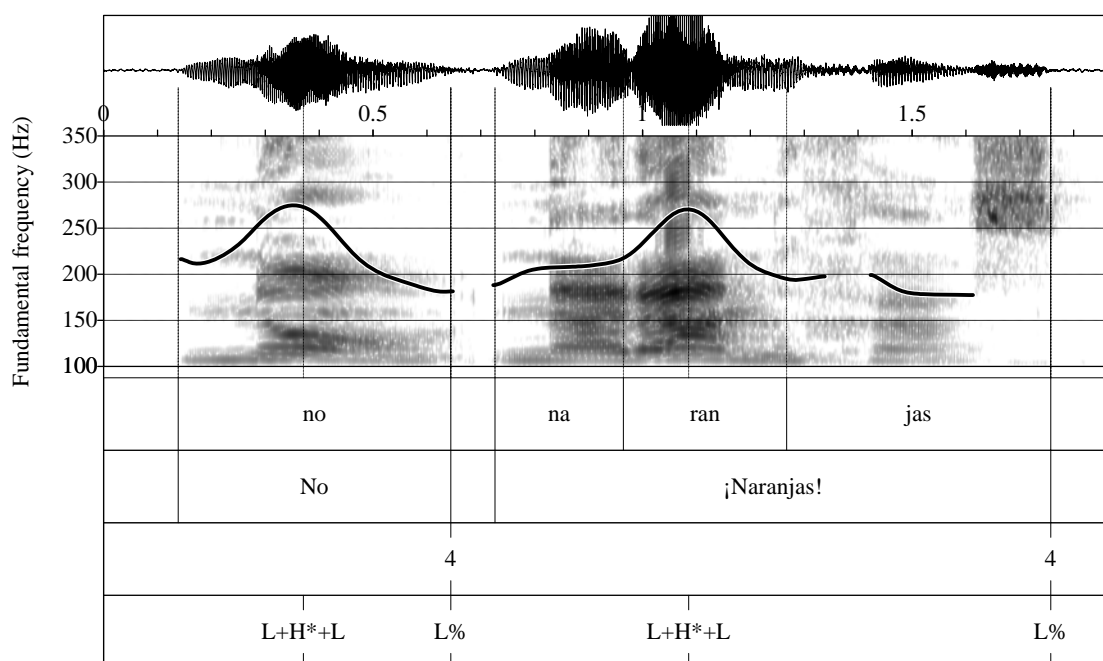
Figure 1: *Waveform, spectrogram and F0 trace for the broad focus statement* Está agarrando un gajo de mandarina *'She is grabbing a segment of tangerine' produced with typical L+H* prenuclear accents, a phrase-internal boundary of the type H-, and a L* nuclear accent followed by a L% boundary tone.*
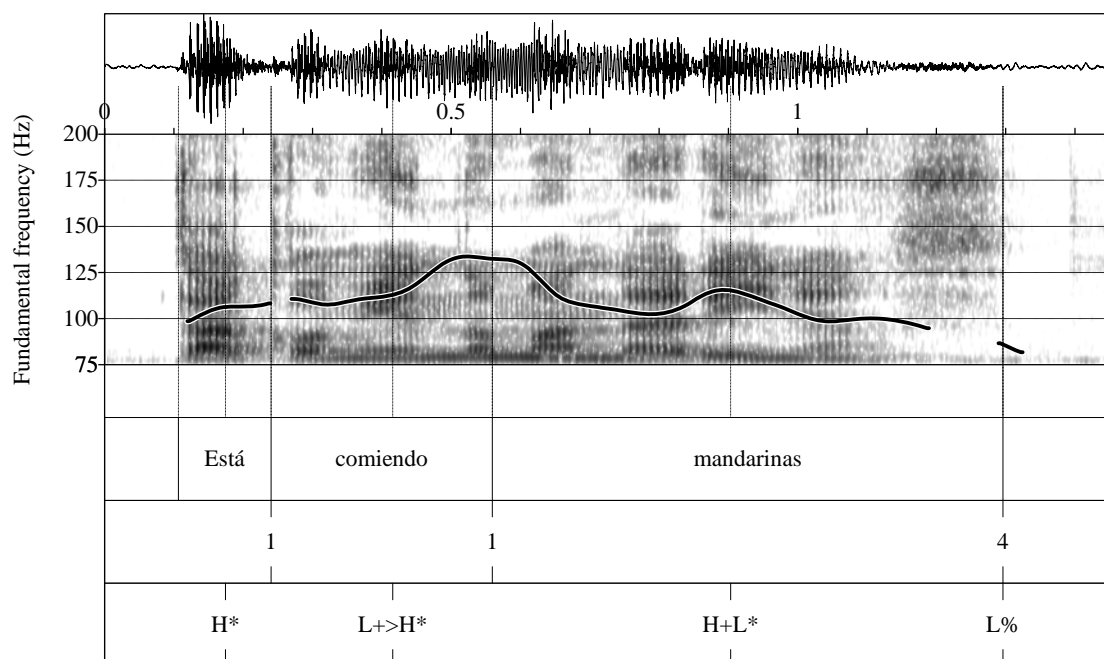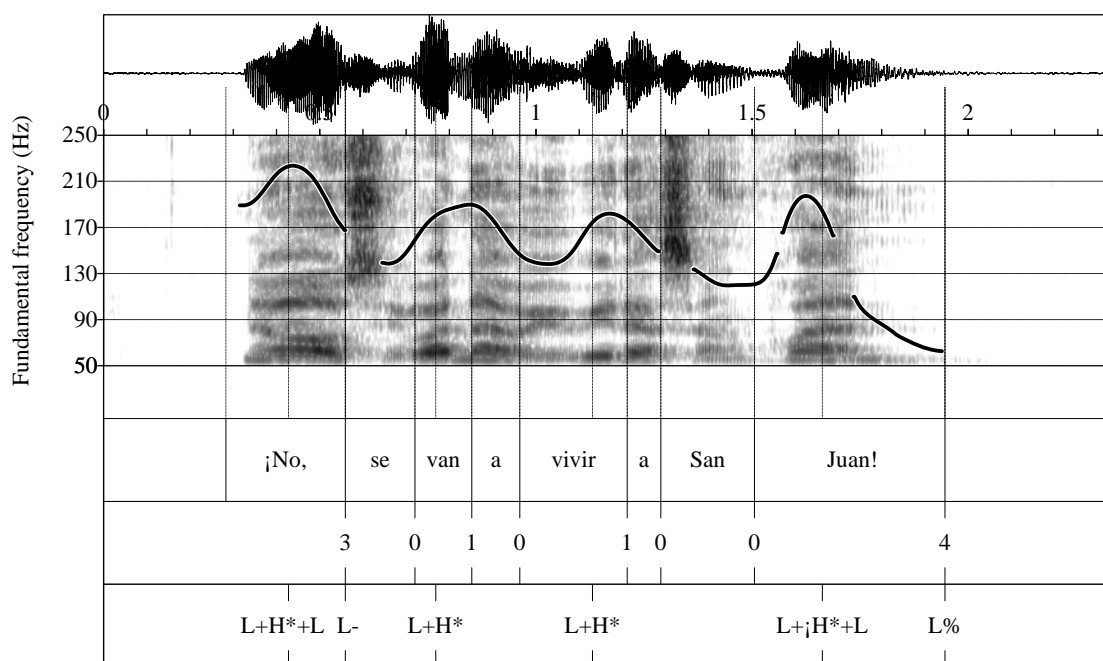

Figure 2: *Waveform and F0 trace for the broad focus statement* Está comiendo mandarinas *'She is eating tangerines' produced with H* and L+>H* prenuclear accents, and a H+L* nuclear accent followed by a L% boundary tone.*

Figure 3: *Waveform, spectrogram and F0 trace for the narrow focus statement* No. ¡Na<u>ran</u>jas! *'No, oranges!' produced with a L+H*+L L% nuclear configuration.*

Figure 4: *Waveform, spectrogram and F0 trace for a contradiction statement* ¡<u>No</u>, se <u>van</u> a vi<u>vir</u> a San <u>Juan</u>! *'No, they are going to live in San Juan!' realized with L+H* prenuclear pitch accents and an (upstepped) L+¡H*+L L% nuclear configuration.*

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Contradiction statements are similar to the narrow focus statements just described. Thus, it comes as no surprise that contradiction statements are also generally produced with a tritonal L+H*+L nuclear accent followed by a low boundary tone (L%). This is shown in figure 4, which depicts the utterance *¡No, se van a vivir a San Juan!* 'No, they are going to live in San Juan!' Regarding the surfacing of the prenuclear accent as a L+H* tone, the statement under discussion patterns with all other utterance types in *porteño* Spanish. Again, the first intonational unit, the negation particle *no*, likewise bears the tritonal pitch accent (L+H*+L).

As will be shown in the next two sections, the L+H*+L L% nuclear configuration is not limited to narrow focus and contradiction statements, but also occurs in exclamatives and statements of the obvious.

3.1.2.2. Exclamative statements

Exclamative statements are realized with the same nuclear configuration used in narrow focus statements. Figure 5 shows the exclamative statement *¡Mmm! ¡Qué ricas medialunas!* 'Mmm! What delicious croissants!', where the nuclear accent L+H*+L is used to express emphasis. The tritonal accent is located on the stressed syllable of *medialunas*, followed by a L% low boundary tone. The prenuclear accent on *ricas* is L+H*, the typical prenuclear accent in *porteño* Spanish. The rise within the tonic syllable is clearly visible in the syllabic tier. The contour falls on *-cas* (though the voiceless obstruent [k] causes a local perturbation). Again, the first intonation unit (*¡Mmm!*) exhibits the same nuclear configuration as the second one.

3.1.2.3. Statements of the obvious

The next example, figure 6, represents a statement which refers to the upcoming wedding of a mutual friend of the interlocutors. The speaker here provides the (obvious) information that this friend will marry his or her boyfriend Manuel, in reply to the question *¿Con quién se va a casar?* 'Whom is s/he going to marry?' As is the case for narrow focus statements and exclamative statements, the nuclear configuration consists of a tritonal L+H*+L pitch accent followed by a L% low boundary tone. This nuclear contour contrasts with the contour found in Mexican and Puerto Rican Spanish, where nuclear L+H* is followed by the complex boundary tone LM% (see de-la-Mota, Butragueño and Prieto this volume, Armstrong this volume).
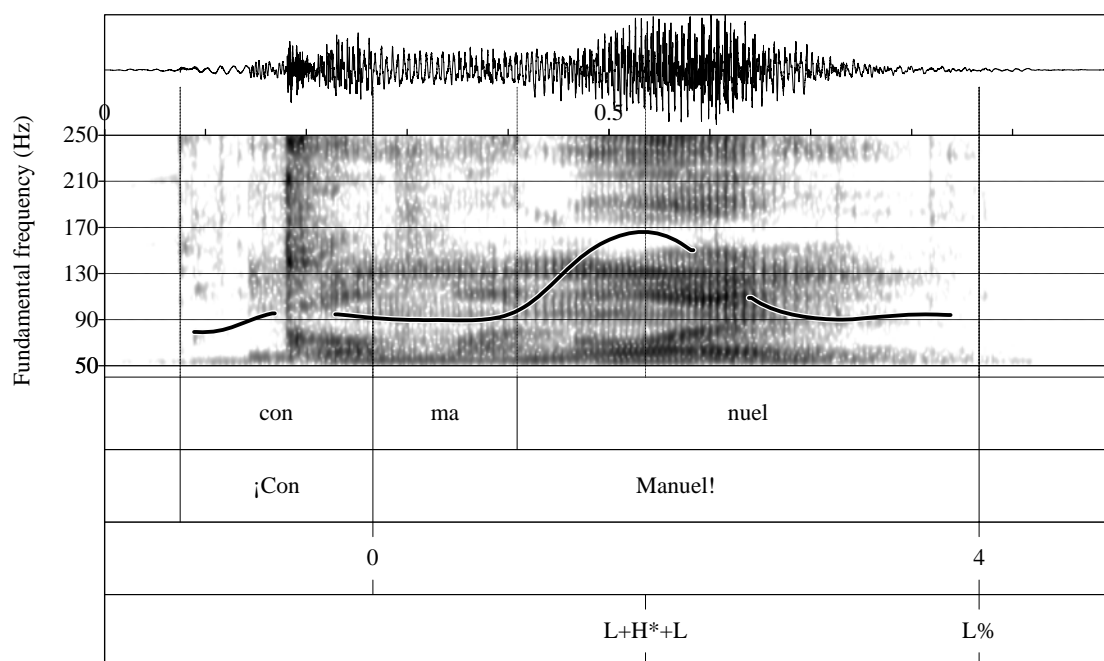
3.1.2.4. Uncertainty statements

The intonation of uncertainty statements can involve a L* nuclear accent followed by a M% boundary tone which is phonetically manifested as a rise to a mid target. This is illustrated in figure 7 for the utterance *Yo no sé si le va a gustar eso* 'I don't know if s/he is going to like that.'

As can be seen, all prenuclear accents in the subordinate clause (*si le va a gustar eso*) are realized as L* low tones, while the pitch accent on the word *yo* 'I' is realized as a H* without any initial dip. Uncertainty statements also have a final M% boundary tone in Castilian Spanish (Estebas-Vilaplana and Prieto this volume) and Chilean Spanish (Ortiz, Fuentes and Astruc this volume).
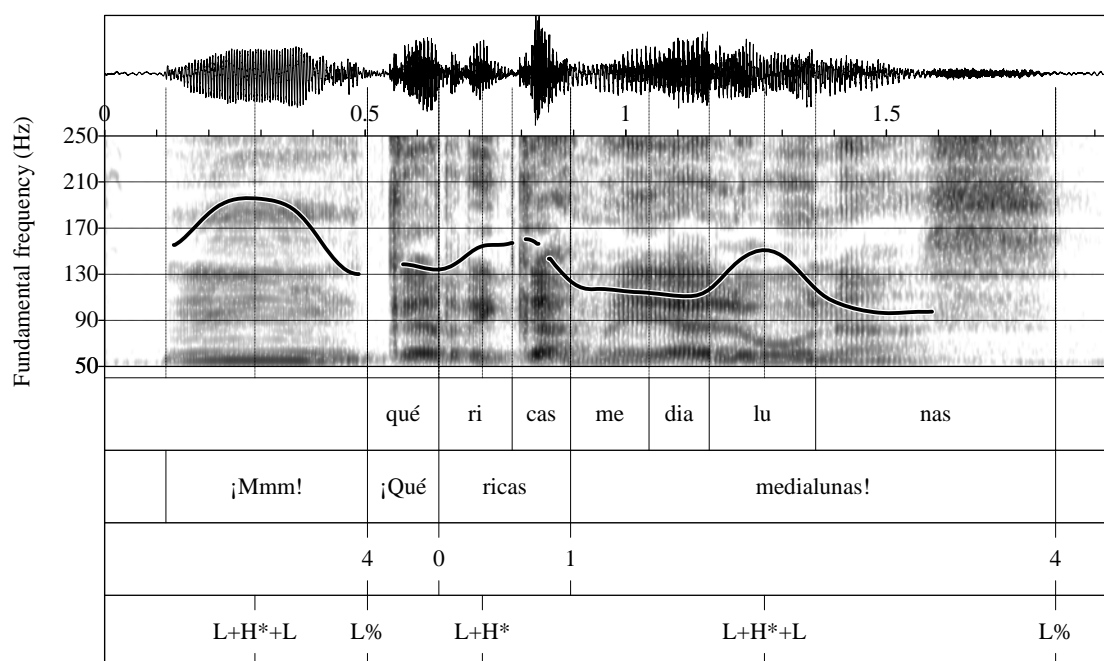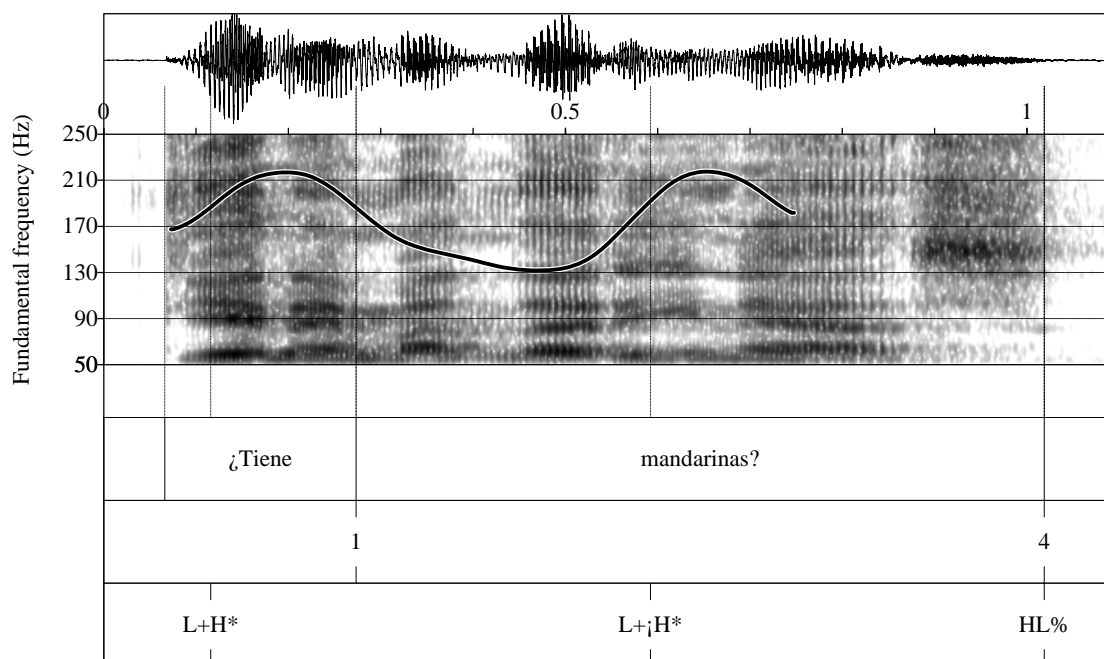
Figure 5: *Waveform, spectrogram and F0 trace for the exclamative statement* ¡Mmm! ¡Qué <u>ri</u>cas media<u>lu</u>nas! *'Mmm! What delicious croissants!' produced with a prenuclear L+H* pitch accent and a L+H*+L nuclear accent followed by a L% boundary tone.*
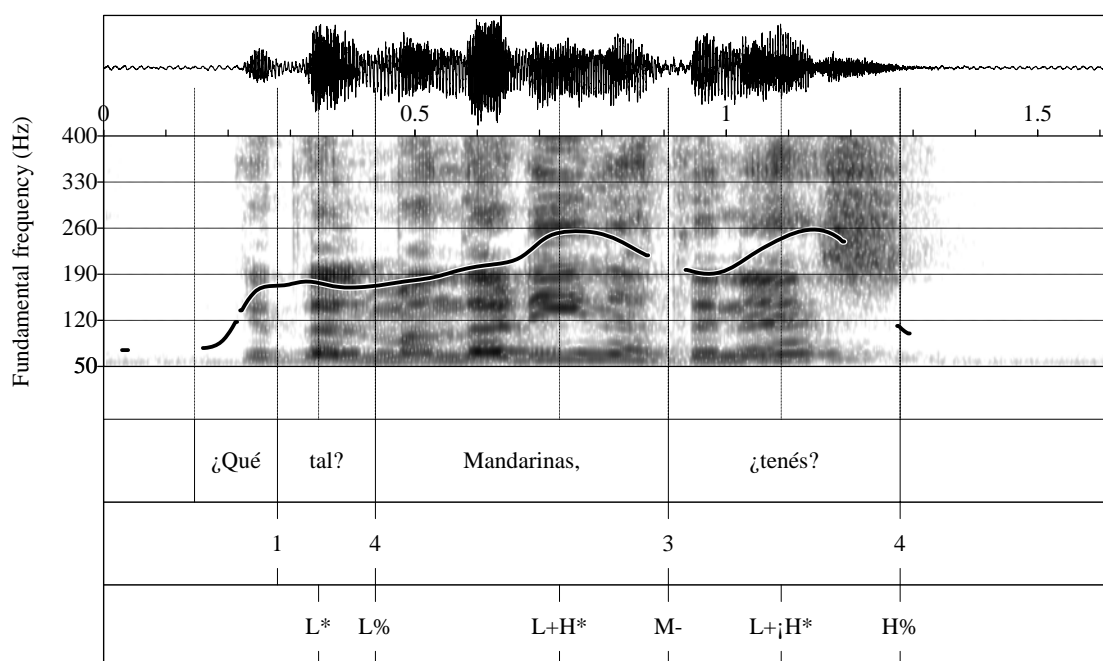

Figure 6: *Waveform, spectrogram and F0 trace for a statement of the obvious* ¡Con Ma<u>nuel</u>! *'With Manuel!' produced with a nuclear L+H*+L accent followed by a L% boundary tone.*
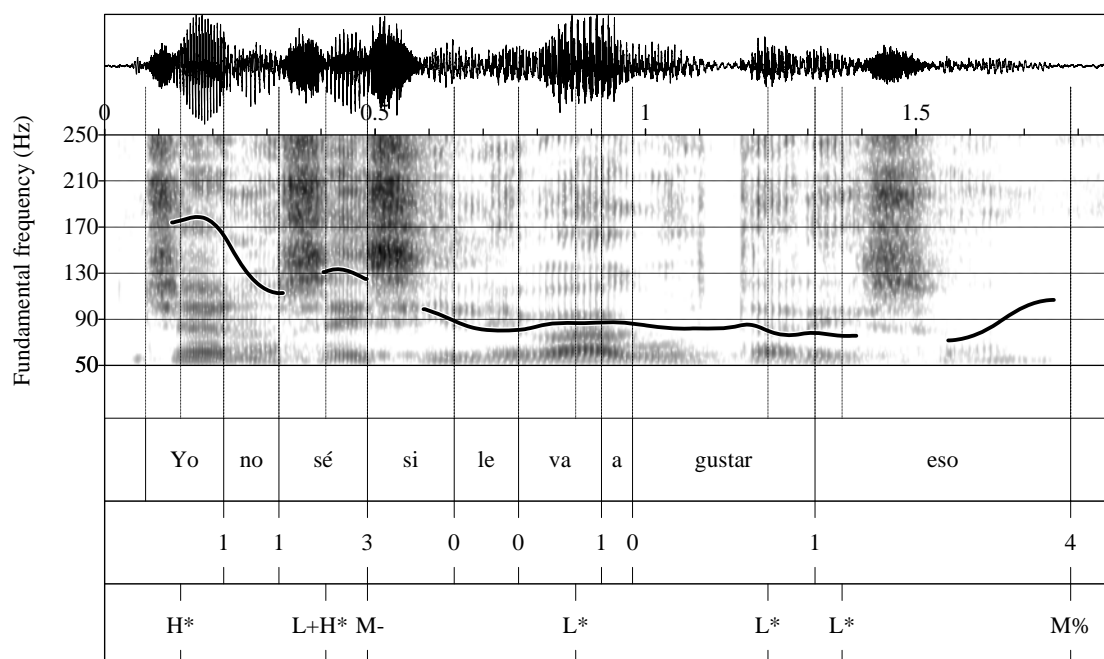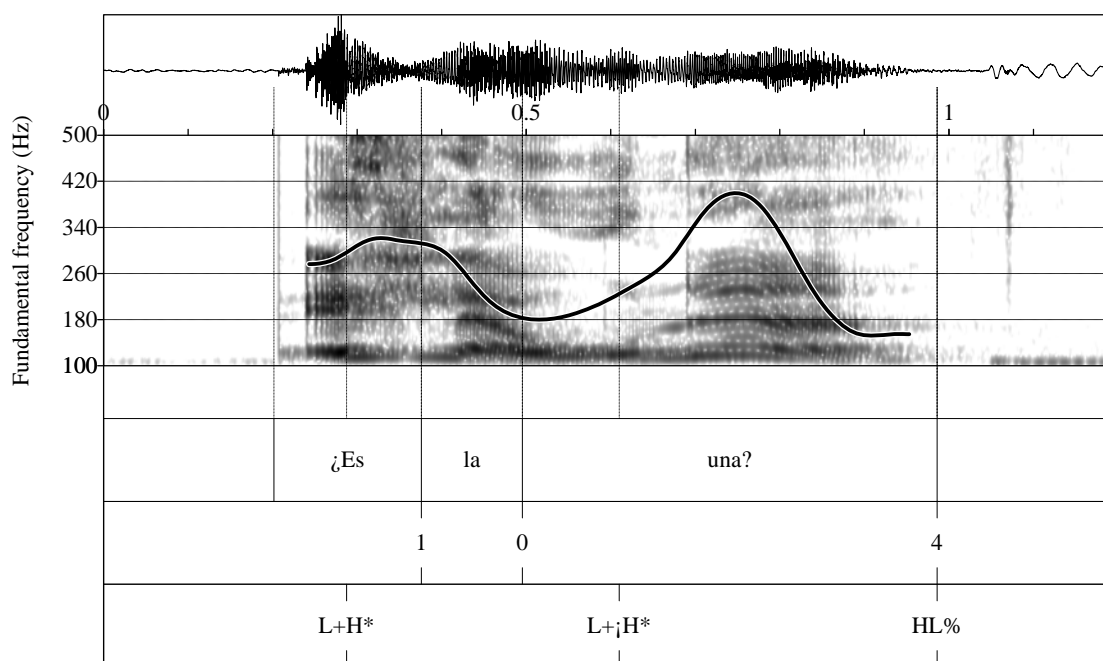
Figure 7: *Waveform, spectrogram and F0 trace for the uncertainty statement* Yo *no* sé *si le* va *a* gus<u>tar</u> eso *'I don't know if s/he is going to like that' produced with a L* nuclear accent followed by a M% boundary tone.*

Figure 8: *Waveform, spectrogram and F0 trace for the information-seeking yes-no question* ¿<u>Tie</u>ne manda<u>ri</u>nas? *'Have you got any tangerines?' produced with a L+H* prenuclear accent and an (upstepped) L+¡H* nuclear accent followed by a HL% boundary tone.*

Figure 9: *Waveform, spectrogram and F0 trace for the information-seeking yes-no question* Manda<u>ri</u>nas, ¿te<u>nés</u>? *'Have you got any tangerines?' produced with an (upstepped) L+¡H* nuclear accent followed by a H% boundary tone (underlyingly HL%).*

Figure 10: *Waveform, spectrogram and F0 trace for the echo yes-no question* ¿<u>Es</u> la <u>u</u>na? *'It's one o'clock?' produced with an (upstepped) L+¡H nuclear accent followed by a HL% boundary tone.*

3.2. Questions

3.2.1. Yes-no questions

Information-seeking yes-no questions have a characteristic rising accent in nuclear position. The most frequent pattern is an upstepped L+¡H* pitch accent, as illustrated in figures 8 and 9.

As opposed to Castilian Spanish, this type of question is regularly produced with a falling contour, as shown in figure 8. However, a few examples of H boundary tones were found, but only in utterances ending with oxytonic words (see figure 9). Following Lee (2010), we assume that this is just the manifestation of an underlying boundary tone, which is labelled HL%, and that this surface realization is an instance of truncation, given the lack of space to realize the fall (see also Toledo and Gurlekian 2009).

3.2.2. Biased yes-no questions

3.2.2.1. Echo yes-no questions

Following Iwata (2003), echo yes-no questions (in his terminology: 'pure echo' questions, 2003: 186) are interrogatives that involve repetition of a preceding utterance or part thereof. In figure 10 the speaker was just told the time, but she is not sure she has understood it correctly and therefore asks again by repeating the preceding utterance. The example illustrates the most frequent realization of echo yes-no questions in Buenos Aires Spanish, involving an (upstepped) L+¡H* rising accent in nuclear position and a HL% falling boundary tone.

In the example depicted in figure 11, the speaker only repeats a part of the preceding utterance, namely [DP *la una*], which is located in preverbal position. Note that the focused constituent receives the highest F0 prominence and thus overrides the series of upstepped pitch accents which is otherwise characteristic of Buenos Aires question contours.

Counterexpectational yes-no questions that express surprise also show an early peak alignment in prenuclear position with the peak aligned within the second half of the stressed syllable. The same holds for the early peak alignment of nuclear accent, i.e. the peak is consistently located in the centre of the stressed syllable followed by a low target (L+¡H*+L). We have seen in section 3.1 that this tritonal pitch accent occurs in utterances with a contrastive or emphatic reading. It is no wonder, thus, that it also occurs in questions which have a nuance of surprise. Counterexpectational questions may be additionally marked by the introduction of the exclamatory *qué* 'what', which constitutes a prosodic phrase on its own.

Although a HL% final boundary tone is the most frequent one in this type of question, high boundary tones are also observed, depending on the stress pattern of the final word in the utterance (with oxytonic words triggering surfacing of the boundary tone as H%). However, Lee et al. (2010) show that the realization of the final boundary tone also depends on durational cues; i.e. in the presence of final lengthening a falling final contour is preferred.

3.2.2.2. Imperative yes-no questions

Yes-no questions are also used to express commands. The corresponding contour is realized as a L+¡H* nuclear accent and a HL% boundary tone. Figure 13 illustrates a typical example, in which the speaker demands that her children adjust the volume of the television.

The contour of polite invitation or request yes-no questions resembles the one usually produced for the other types of yes-no question, i.e. a L+H* nuclear accent followed by a HL% boundary tone. Note, however, that here no upstepping is at play. The example given in figure 14 is uttered in a context in which the speaker asks his friend to have a beer with him.

### 3.2.2.3. Confirmation yes-no questions

An example of a confirmation yes-no question is given in figure 15. In the present context, the addressee of the utterance (*Juan*) is asked to confirm his promise to come for dinner. As in other yes-no questions (for example, see figures 8 and 10), the nuclear accent is realized as an upstepped L+¡H* followed by a final boundary tone, which surfaces as HL%.
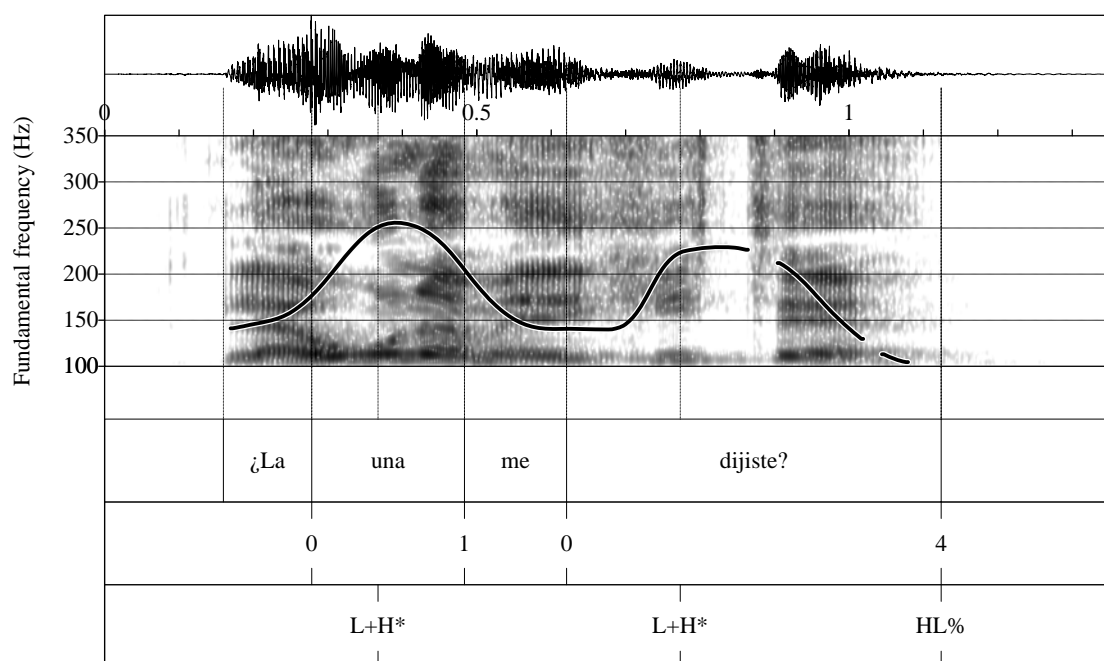
Figure 11: *Waveform, spectrogram and F0 trace for the echo yes-no question ¿La u̲na me di̲ji̲ste? 'One o'clock, you said?' produced with a L+H* nuclear accent followed by a HL% boundary tone.*
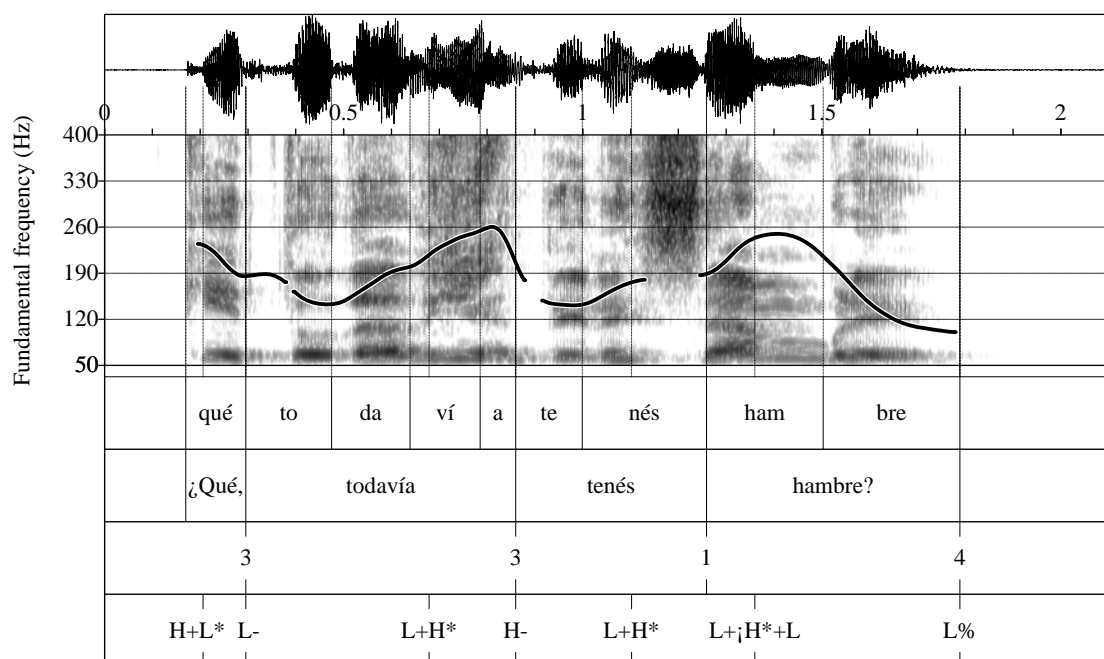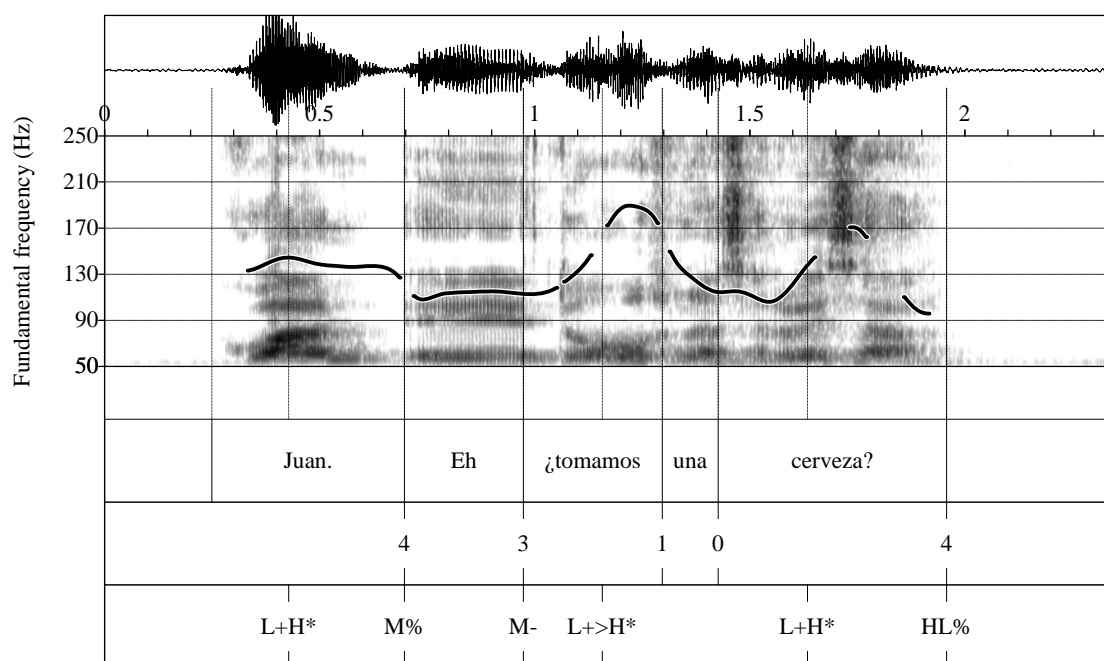
Figure 12: *Waveform, spectrogram and F0 trace for the counterexpectational yes-no question ¿Qué, todavía tenés hambre? 'What? You're still hungry?!' produced with an (upstepped) L+¡H*+L nuclear accent followed by a L% boundary tone.*
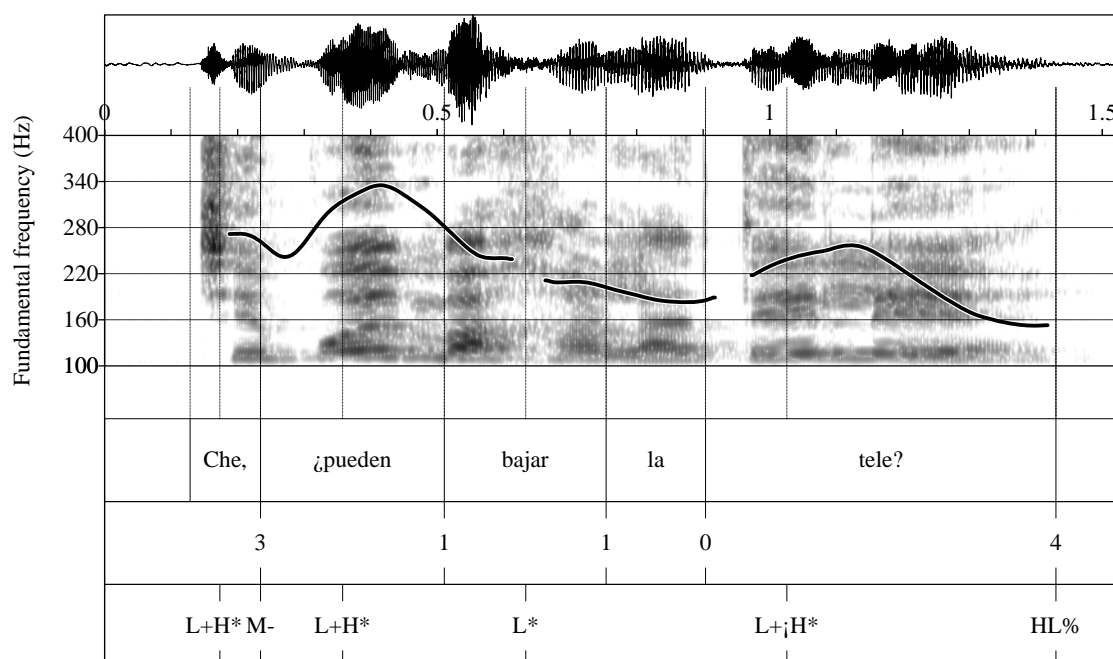
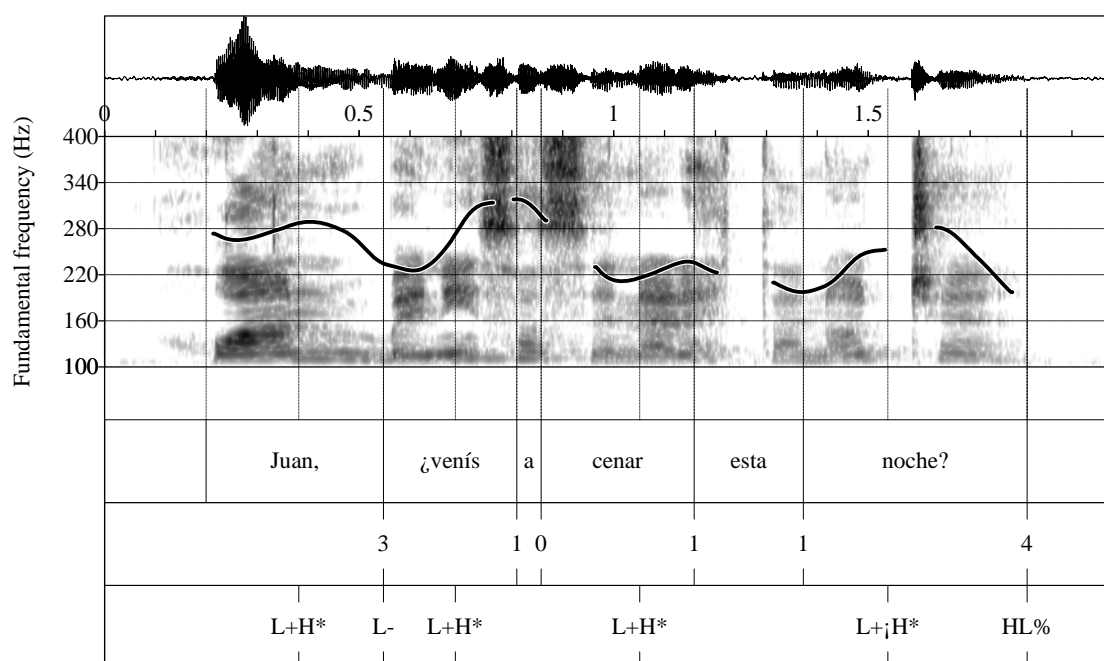

Figure 13: *Waveform, spectrogram and F0 trace for the imperative yes-no question Che, ¿pueden bajar la tele? 'Would you please turn down the television?' produced with a L+¡H* nuclear accent on tele followed by a HL% boundary tone.*

Figure 14: *Waveform, spectrogram and F0 trace for the invitation yes-no question* <u>Juan</u>. Eh ¿to<u>ma</u>mos una cer<u>ve</u>za? *'Juan, hey, shall we have a beer?' produced with a L+>H* prenuclear and L+H* nuclear accent followed by a HL% boundary tone.*

Figure 15: *Waveform, spectrogram and F0 trace for the confirmation yes-no question* <u>Juan</u>, ¿ve<u>nís</u> a ce<u>nar</u> esta <u>no</u>che? *'Juan, are you coming for a dinner tonight?' produced with a L+¡H* nuclear accent followed by a HL% boundary tone.*

3.2.3. Wh- questions

Information-seeking wh- questions show a consistent realization across speakers, independently of both the wh- word and the stress pattern of the last word in the utterance. In all cases, the question begins with a rising or high accent and ends in a nuclear fall (L* L%). This pattern is illustrated in figure 16, where the highest peak is associated with the wh- word *qué* 'what' and is followed by a falling contour.

Although we have analysed the nuclear accent as L*, this utterance can also be interpreted as a case of deaccenting (see Barjam 2004), since no significant tonal movements are observed after the wh- word. An additional example of the same pattern is provided in figure 17. Here, the wh- question is introduced by a different wh- word (*quién* 'who'), but the F0 contour is similar to the one in figure 16 (note that the voiceless plosive [t] in *paquete* 'parcel' causes a local perturbation in figure 17).

Our results are thus consistent with those reported by Barjam (2004) but are radically different from those obtained by Enbe and Tobin (2008), who found that falling contours were the least common for all groups of speakers in their corpus. Several explanations can be suggested to account for the different results. First, our examples were elicited within a given context, which was not the case in Enbe and Tobin's study. Second, neither of the studies controlled for sociolinguistic variables, such as education or social class, and it may well be the case that social classes differ in their selection of intonational contours.

3.2.4. Biased wh- questions

3.2.4.1. Echo wh- questions

Echo wh- questions differ from the echo yes-no questions dealt with in section 3.2.2.1 in so far as they include a wh- expression. Regarding its intonational shape, this type of question is similar to the interrogatives discussed so far in also displaying an upstepped nuclear pitch accent. In figure 18, which represents the utterance *¿Me preguntaste adónde iba?* 'Did you ask me where I was going?', the higher pitch level of the upstepped rising accent (L+¡H*) on the verb *iba* is clearly visible. The contour ends in a falling boundary tone HL%.

Figure 19 illustrates a case of a counterexpectational wh- question. In the context that preceded this question, it was mentioned that somebody had been served a cat for dinner at a restaurant, to which the speaker's reaction is the question *¿Qué te sirvieron?* 'What did they serve you?!' This type of question in Buenos Aires Spanish typically ends in L+¡H* M%.

3.2.4.2. Imperative wh- questions

Wh- questions can also have an imperative nuance, namely when the speaker not only demands an answer but also expects the addressee to react in some way. An example of this type of question is given in figure 20. The utterance *¿Cuándo vas a hacerlo?* 'When will you do it?' is produced with the typical contour of information-seeking wh- questions, where the wh- word is realized with a very high pitch, while the following material displays a flat contour, consisting of a series of low pitch accents and a low boundary tone.

Another type of imperative wh- question, which pragmatically differs from the former one in displaying a nuance of irritation, is illustrated in figure 21. The context used for eliciting the utterance is characterised by the fact that the speaker feels irritated at a nightly phone call. The corresponding utterance *¿Qué quiere?* 'What do you want?' is produced with a contour comparable to the one in figure 20: The initial wh- word is realized with a high pitch followed by a L* nuclear accent and a L% boundary tone.

3.2.4.3. Rhetorical wh- questions

The last type of questions we analyse here is rhetorical wh- questions. Figure 22 displays an example of a simple rhetorical wh- question with the characteristic nuclear configuration of Buenos Aires Spanish, i.e. a falling or low accent (here: L*), followed by a low boundary tone. Note that this example exhibits the same pattern as the information-seeking wh- questions analysed in section 3.2.3., but there are possible differences in pitch range, since the peak is higher in the rhetorical wh- question than in the information-seeking wh- question.

If the rhetorical wh- question has an exhortative nuance, as illustrated in figure 23, the low boundary tone is preceded by an (upstepped) L+¡H*+L nuclear accent. Moreover, this example shows two clear instances of our rising-falling pattern, one on the wh- word and another in nuclear position on the item *tranquilo* 'in peace'.
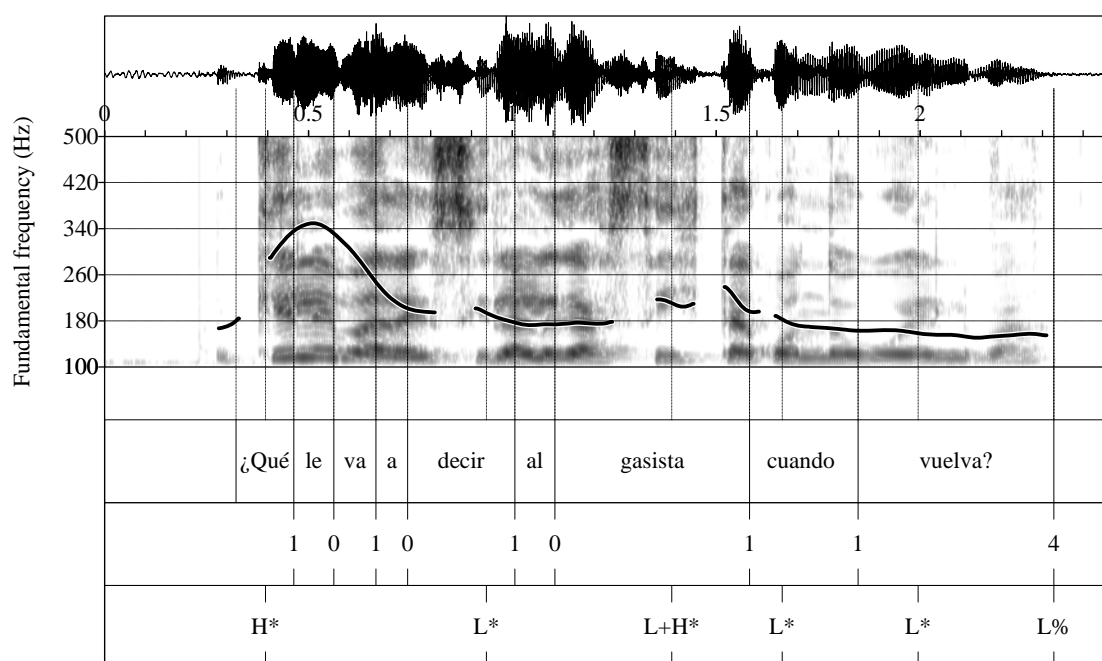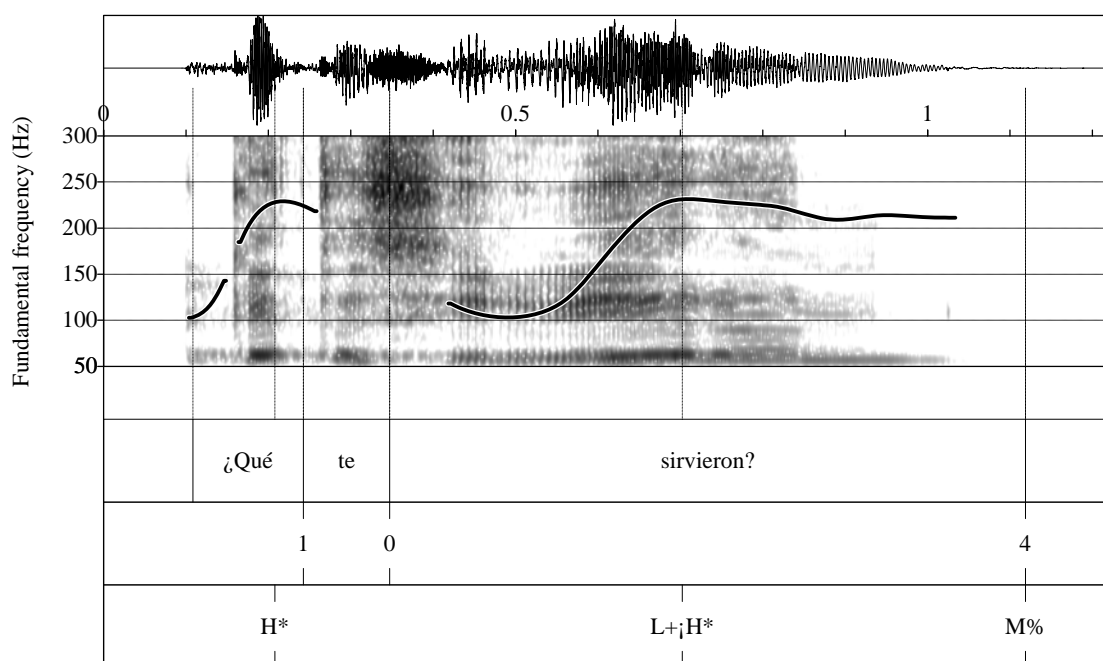

Figure 16: *Waveform, spectrogram and F0 trace for the information-seeking wh- question ¿Qué le va a decir al gasista cuando vuelva? 'What are you going to tell the gasman when he gets back?' produced with a L* nuclear accent followed by a L% boundary tone.*
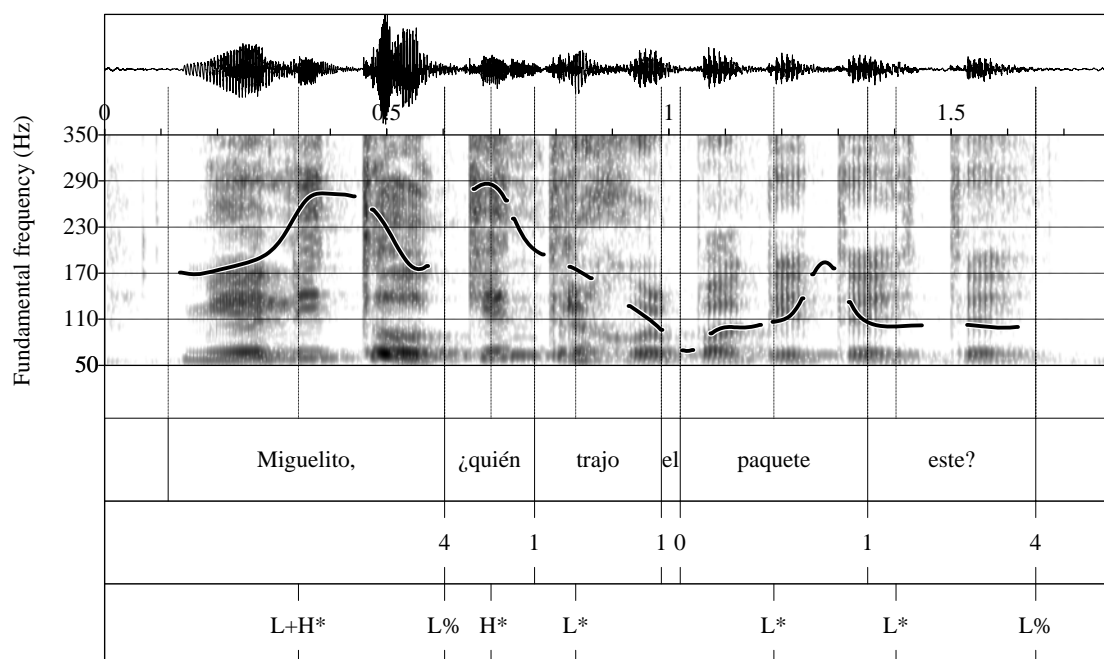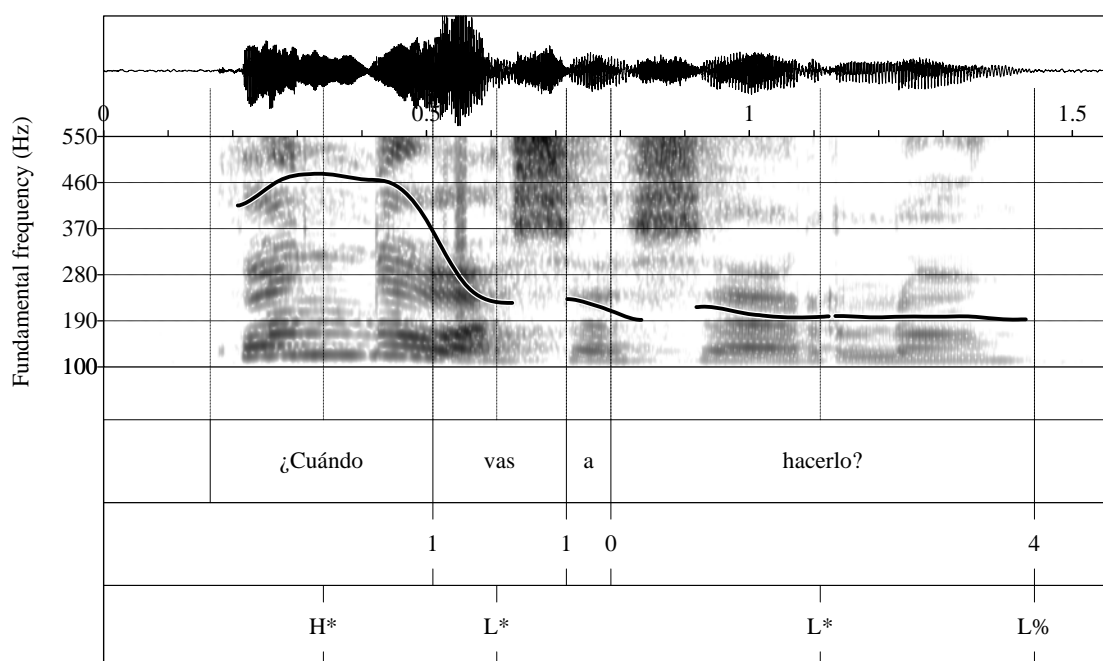
Figure 17: *Waveform, spectrogram and F0 trace for the information-seeking wh- question* Miguel<u>li</u>to, ¿<u>quién</u> <u>tra</u>jo el pa<u>que</u>te <u>es</u>te? *'Miguelito, who brought this parcel?' produced with a L* nuclear accent followed by a L% boundary tone.*
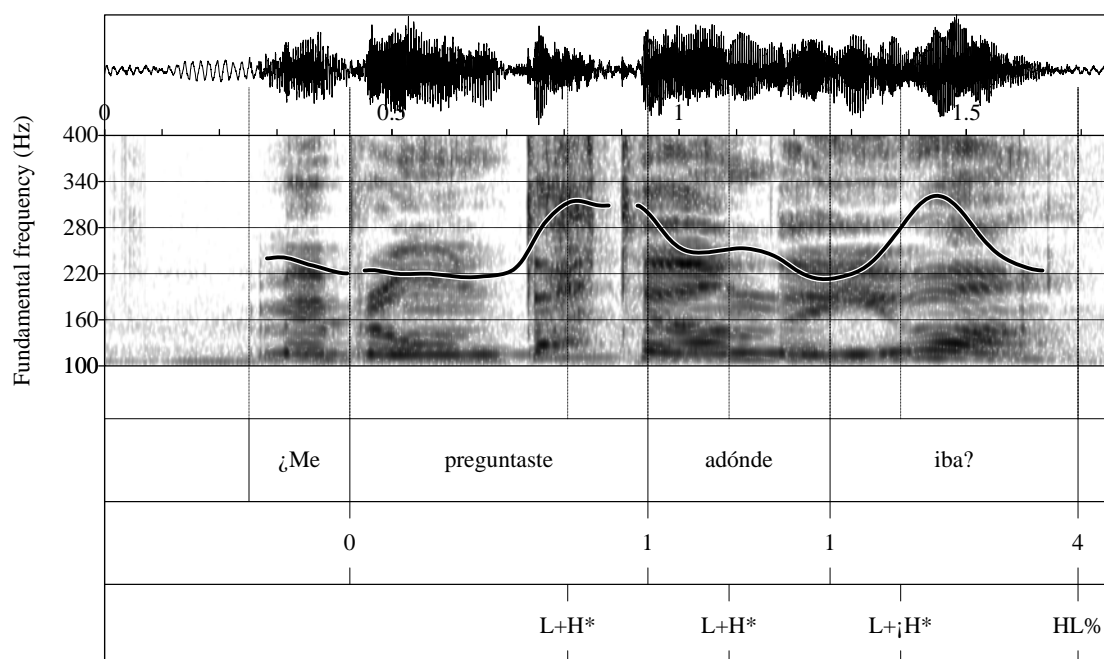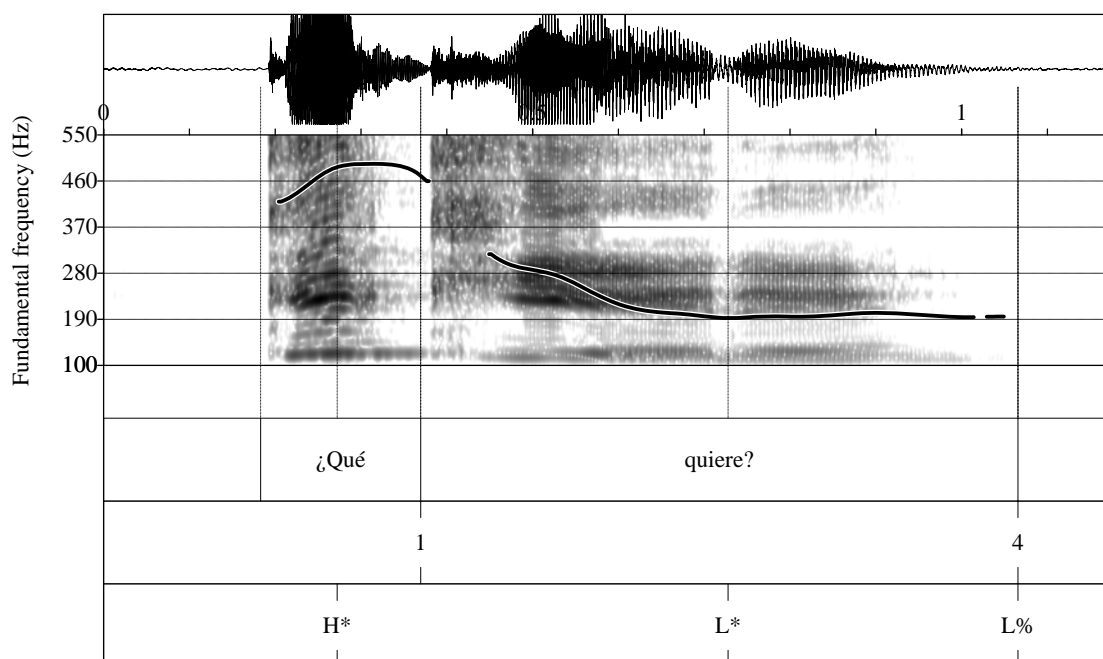

Figure 18: *Waveform, spectrogram and F0 trace for the neutral echo wh- question* ¿Me pregun<u>tas</u>te a<u>dón</u>de <u>i</u>ba? *'Did you ask me where I was going?' produced with a L+H* prenuclear accent and an (upstepped) L+¡H* nuclear accent followed by a HL% boundary tone.*

Figure 19: *Waveform, spectrogram and F0 trace for the counterexpectational wh- question ¿Qué te sirvieron? 'What did they serve you?!' produced with a H* prenuclear accent and an (upstepped) L+¡H* nuclear accent followed by a M% boundary tone.*

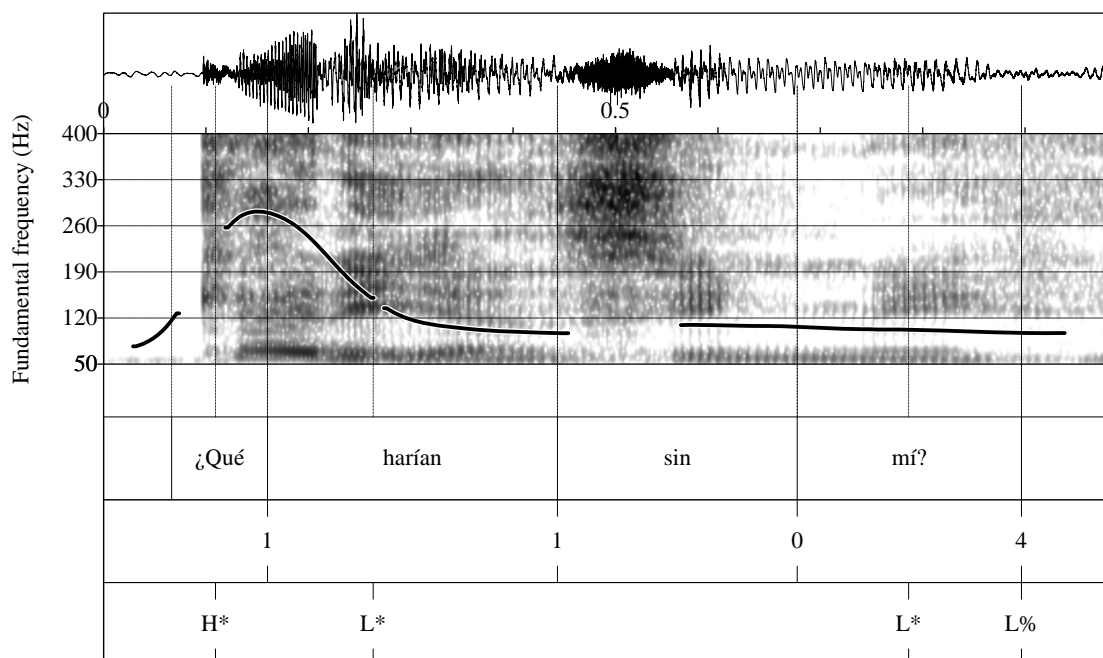**Figure 20:** *Waveform, spectrogram and F0 trace for the imperative wh- question ¿Cuándo vas a hacerlo? 'When are you going to do it?' produced with a L* nuclear accent followed by a L% boundary tone.*

Figure 21: *Waveform, spectrogram and F0 trace for the irritated imperative question ¿Qué quiere? 'What do you want?' produced with a L* nuclear accent followed by a L% boundary tone.*

Figure 22: *Waveform, spectrogram and F0 trace for the rhetorical wh- question ¿Qué harían sin mí? 'What would they do without me?' produced with a H* accent on the wh- word and a L* nuclear accent followed by a L% boundary tone.*
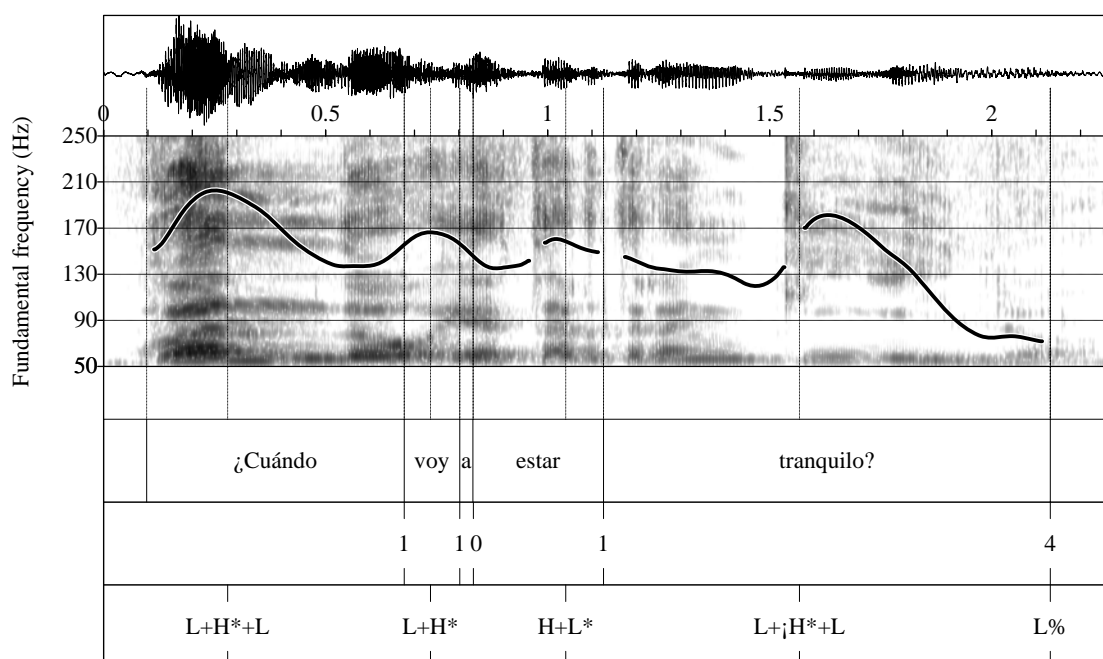
Figure 23: *Waveform, spectrogram and F0 trace for the rhetorical wh- question ¿Cuándo voy a estar tranquilo? 'When am I going to be left in peace?' produced with a tritonal accent on the wh- word and an (upstepped) L+¡H*+L nuclear accent followed by a L% boundary tone.*

3.3. Imperatives: commands and requests

Imperative utterances are directive speech acts intended to get the hearer to perform the action expressed in the proposition. They vary in strength from mild or gentle requests to rather strong commands. Polite directives can be expressed by questions, while more direct commands are usually characterised by the use of the imperative mood. In this section, we describe the intonation patterns most frequently used for different types of directives.

3.3.1. Commands

Commands typically exhibit a H+L* L% nuclear configuration. An example of a command can be found in figure 24, in which the speaker is calling a child who is about to cross a very busy street.

3.3.2. Requests

A common nuclear configuration for requests can be found in figure 25. This utterance consists of a series of three L+H*+L accents followed by a L% boundary tone. This tritonal accent makes the utterance sound like an insistent, cajoling request through which the speaker is trying to get the hearer to accept an invitation. Another feature of this utterance

consists of the fact that the vowels in the tonic syllables are considerably lengthened, which makes it sound even more emphatic.

In certain situations requests are formal rather than intimate or cajoling. This is typical of the communicative situation between a receptionist and a guest at the front desk of a hotel. Figure 26 depicts the receptionist's request *Por favor, completen el formulario* 'Would you please fill in the form', which is produced with a L* L% nuclear configuration.

An alternative way of uttering a polite request is represented in figure 27. In this case, the directive speech act is indirectly performed through a (yes-no) question. The tonal configuration regularly associated with this type of request is the same as in (imperative) yes-no questions, i.e. the nuclear L+¡H* pitch accent is followed by the complex boundary tone HL%. It is also interesting to note the very high target in the first prenuclear pitch accent L+H*, which helps to make the utterance sound very polite.

3.4. Vocatives

Vocatives are utterances used to call someone's attention, especially when the addressee is some distance away. Like in many European languages (Ladd 1996: 136-139), the 'calling contour' used for vocatives in Buenos Aires Spanish usually involves a fairly high tone on the nuclear syllable, and a step down to a lower level. In AM terms, this contour can be analysed as a L+H* pitch accent followed by a M% boundary tone. An example can be seen in figure 28. Here, the speaker has just entered the house of his friend Natalia and is calling her. This type of vocative is labelled 'tentative call'.

A different contour is produced when a vocative expression is realized in a more insistent manner. In the situation used for eliciting the utterance depicted in figure 29, the speaker's friend, Natalia, has not shown any reaction to the first attempt to call her, and the speaker repeats his vocative utterance more insistently. In such 'insistent calls', the nuclear accent typically surfaces as a L+H* tone and is followed by a complex HL% boundary tone.

A sharp summons, finally, is a directive speech act which attempts to get the addressee to stop doing something. This type of vocative is usually produced with a L+H* L% configuration, which makes it sound like a rebuke or reprimand. In the context used to elicit the utterance represented in figure 30, the speaker calls a child who has suddenly run off and is about to cross a busy street.
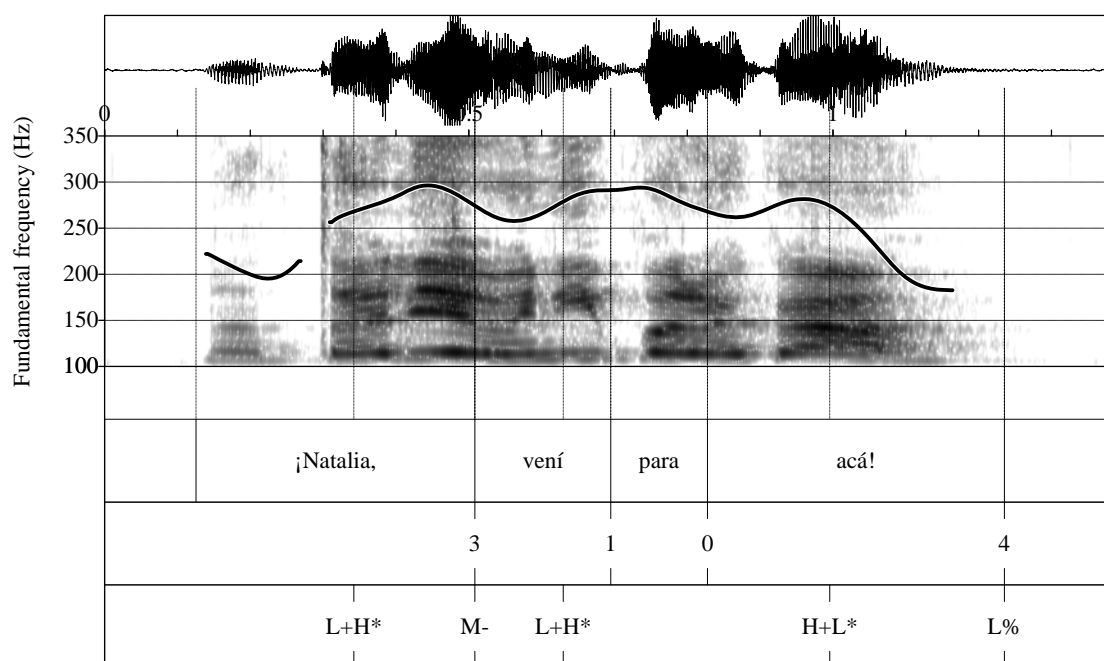
Figure 24: *Waveform, spectrogram and F0 trace for the command* ¡Na<u>ta</u>lia, ve<u>ní</u> para a<u>cá</u>! *'Natalia, come over here!' uttered with a H+L* nuclear accent and a L% boundary tone.*
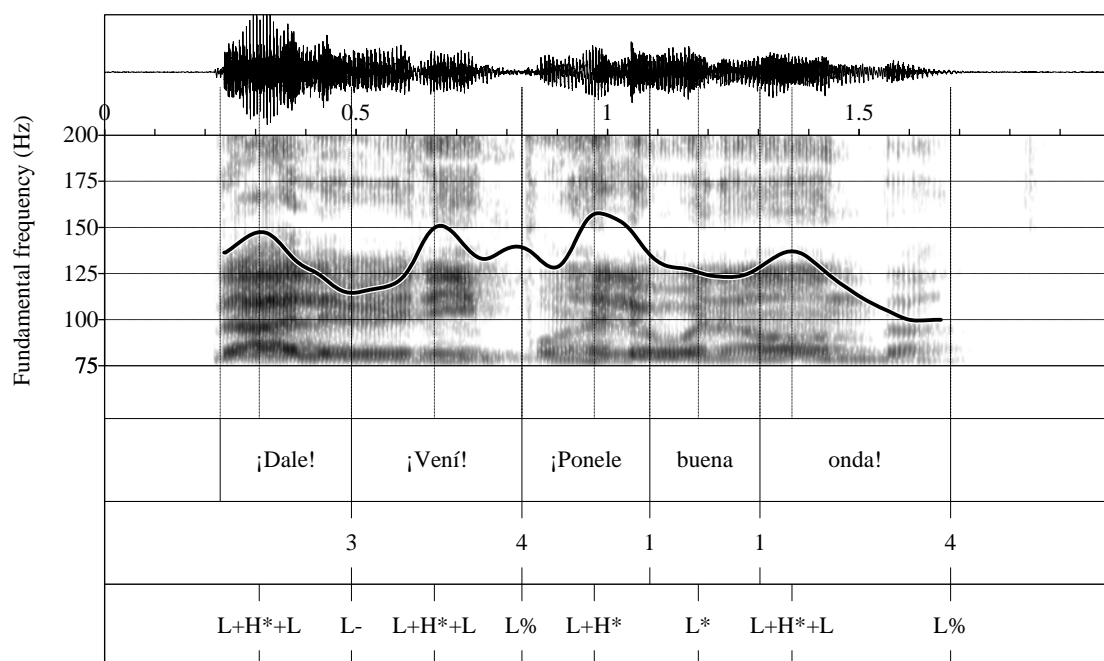
Figure 25: *Waveform, spectrogram and F0 trace for the cajoling request* ¡<u>Da</u>le! ¡Ve<u>ní</u>! ¡Po<u>ne</u>le <u>bue</u>na <u>on</u>da! *'Come on, come with us! Bring good vibes!' produced with a L+H*+L L% nuclear configuration.*
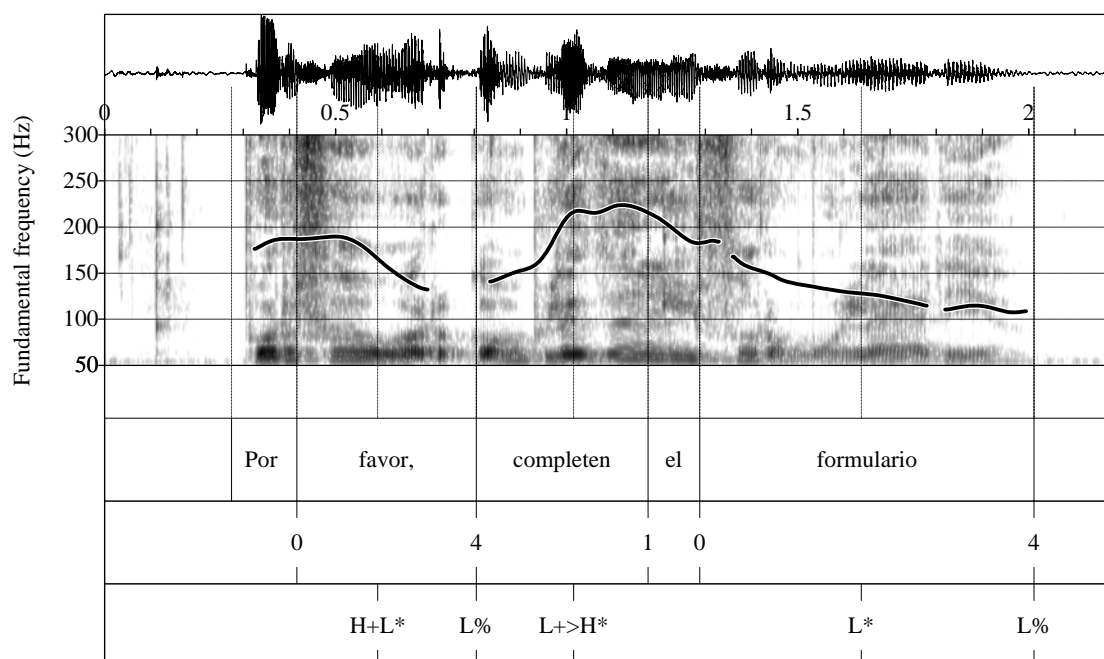
Figure 26: *Waveform, spectrogram and F0 trace for the request* Por fa<u>vor</u>, comple<u>ten el formu<u>la</u>rio *'Would you please fill in the form' produced with a L* L% nuclear configuration.*
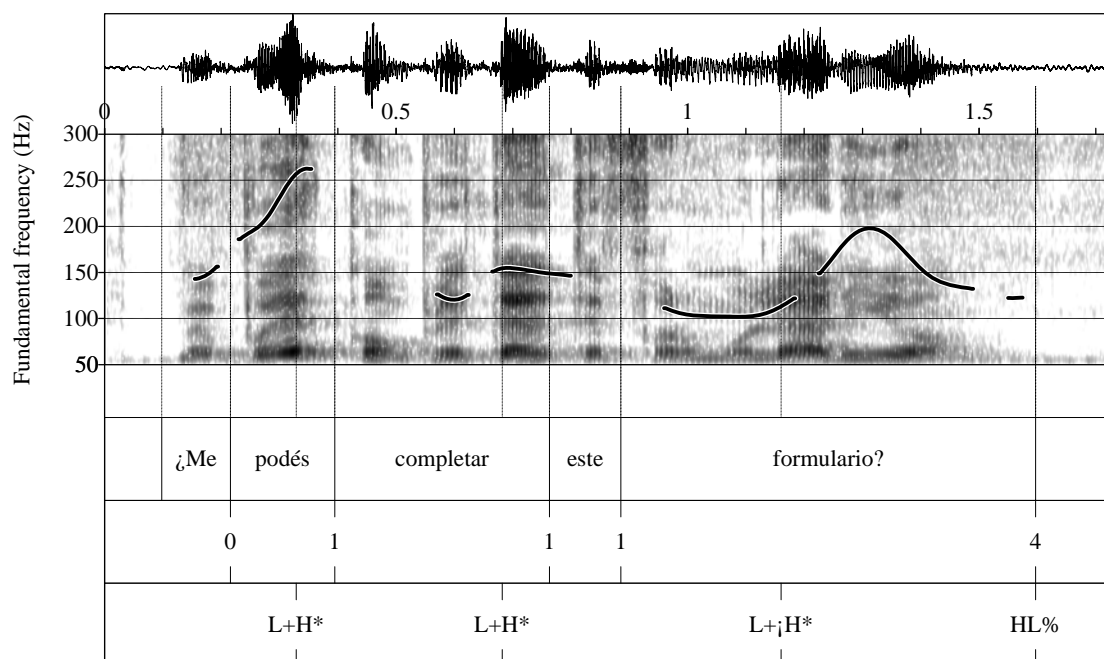
Figure 27: *Waveform, spectrogram and F0 trace for the request* ¿Me po<u>dés</u> comple<u>tar</u> este formu<u>la</u>rio? *'Would you fill in this form?' produced with a L+¡H* HL% nuclear configuration.*
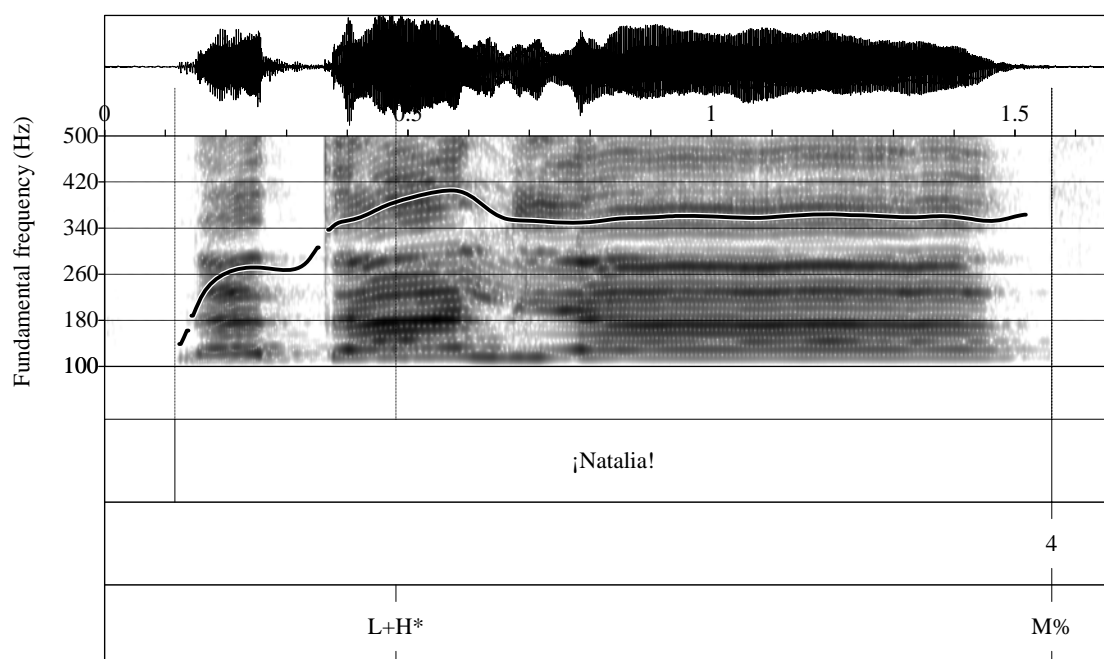
Figure 28: *Waveform, spectrogram and F0 trace for the tentative call* ¡Na<u>ta</u>lia! *uttered with the typical nuclear configuration L+H* M%.*
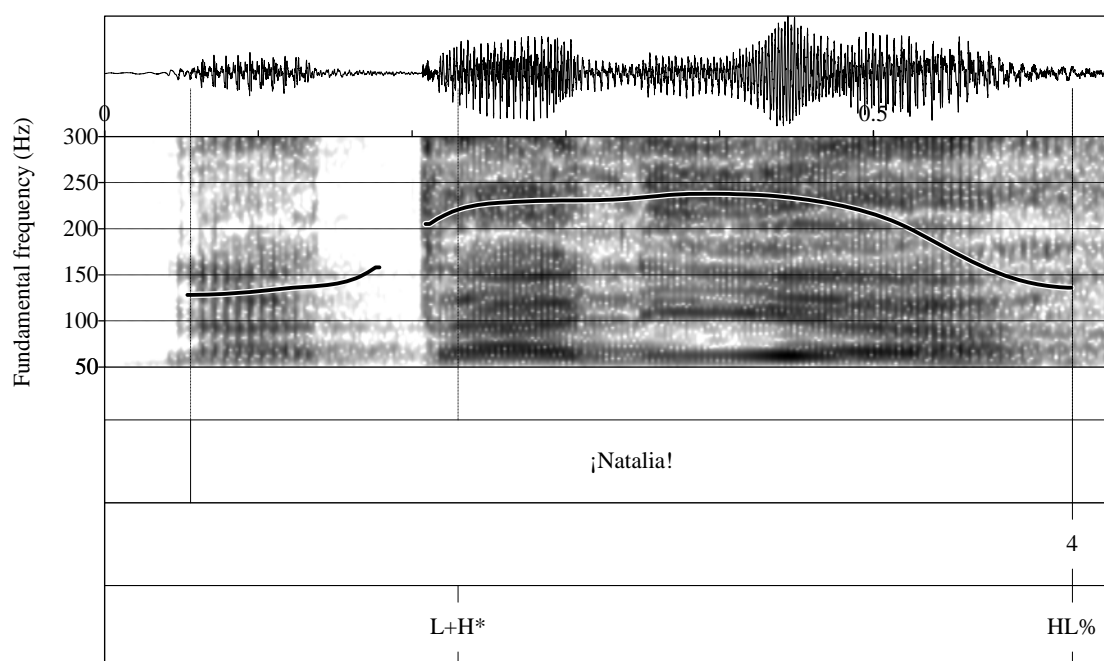
Figure 29: *Waveform, spectrogram and F0 trace for the insistent call* ¡Na<u>ta</u>lia! *uttered with a L+H* nuclear pitch accent followed by a complex HL% boundary tone.*
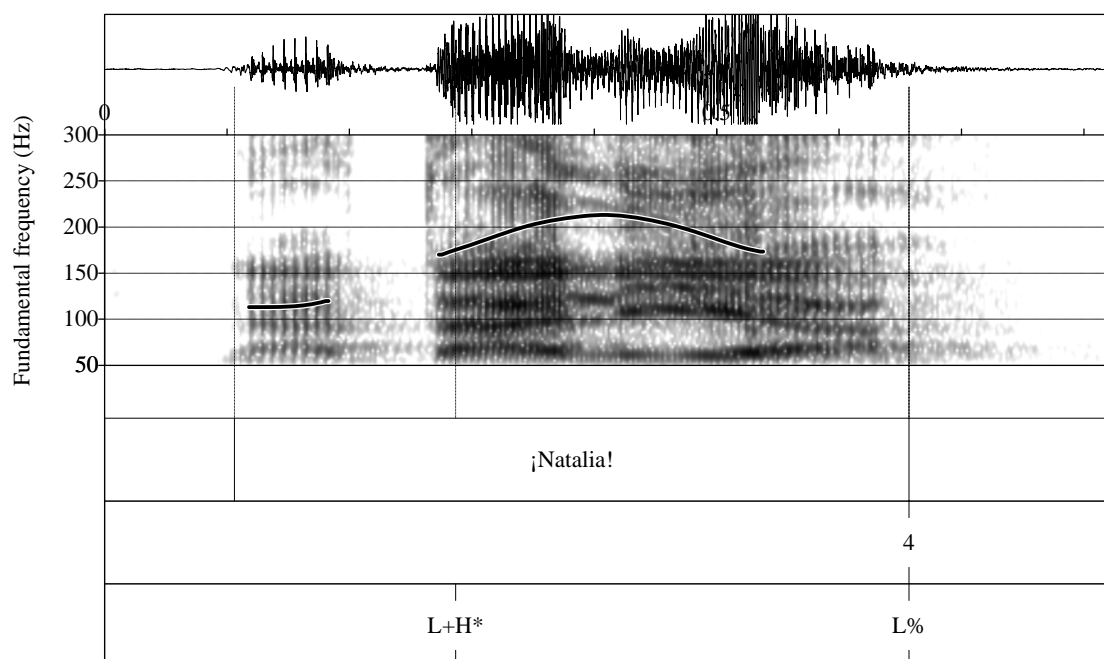
Figure 30: *Waveform, spectrogram and F0 trace for the sharp summons* ¡Natalia! *produced with a L+H* nuclear pitch accent followed by a L% boundary tone.*

4. Conclusions

The goal of this chapter consisted in analysing the intonational tunes of basic utterance types in Buenos Aires Spanish. The labels we proposed are consistent with the annotation guidelines suggested by Beckman et al. (2002), Estebas-Vilaplana and Prieto (2009), and Aguilar et al. (2009). We nevertheless introduced some additional labels necessary for the description of certain tonal particularities of the variety discussed here.

In order to account for the striking rising-falling pattern within the metrically strong syllable that typically occurs in utterances with a contrastive or emphatic reading we proposed a tritonal accent L+H*+L, which is not attested in other Spanish varieties (see this volume). Only Ecuadorian Andean Spanish seems to display a comparable pitch movement: In that variety, statements of the obvious are marked by means of a F0 peak usually located towards the middle of the stressed syllable (see O'Rourke this volume).

Nuclear accents typically surface as falling tones (HL*) in *porteño* Spanish. In contrast, nearly all other Spanish varieties analysed in this volume use a rising tonal movement (L+H*) as a nuclear accent, which, in turn, commonly occurs in Buenos Aires Spanish in prenuclear position. Again, it is the Ecuadorian variety which partly patterns with *porteño* in allowing prenuclear accents to surface as L+H*, although this use is limited to certain biased statements and questions (see O'Rourke this volume). The typical prenuclear accent in most varieties (such as Castilian, Mexican, Chilean, Canarian and Ecuadorian Andean Spanish; see this volume) is L+>H*. This pitch accent, which surfaces as a rising tonal movement with a delayed peak, is only rarely attested in *porteño* Spanish. L+H*, in turn, also occurs in nuclear

position in Buenos Aires Spanish, but only in vocatives and, in its upstepped version (L+¡H*), in different types of yes-no questions. Cantabrian Spanish (López-Bobo and Cuevas-Alonso this volume) also displays an upstepped L+¡H* nuclear accent in certain yes-no questions. However, while the nuclear accent in Buenos Aires Spanish is mainly followed by (H)L%, Cantabrian Spanish boundary tones are typically realized as (H)M%.

Table 3 summarizes the nuclear configurations (combinations of the very last pitch accent in an utterance and the subsequent boundary tone) found in our data and discussed in the previous section. Recall that the final boundary tone surfaces as H% if (and only if) the last word of the utterance has oxytonic stress (see section 3.2.1).

Table 3: *Inventory of nuclear pitch configurations in Argentinian Spanish and their schematic representations*

Statements		
Broad focus statements	L* L%	
	H+L* L%	
Biased statements		
Narrow focus statements	L+H*+L L%	
Contradiction statements	L+H*+L L%	
Exclamative statements	L+H*+L L%	
Statements of the obvious	L+H*+L L%	
Uncertainty statements	L * M%	
Yes-no questions		
Information-seeking yes-no questions	L+¡H* HL%	

Biased yes-no questions		
Echo yes-no questions	L+¡H* HL%	
Counterexpectational echo yes-no questions	L+¡H*+L L%	
Imperative yes-no questions	L+¡H* HL%	
Confirmation yes-no questions	L+¡H* HL%	
Wh- questions		
Information-seeking wh-questions	L* L%	
Biased wh- questions		
Echo wh- questions	L+¡H* HL%	
Counterexpectational echo wh-questions	L+¡H* M%	
Imperative wh- questions	L* L%	
Rhetorical wh- questions	L* L%	
	L+¡H*+L L%	
Imperatives: commands and requests		
Commands	H+L* L%	
Requests	L+H*+L L%	
	L* L%	

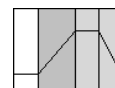| *Vocatives*		
Tentative call	L+H* M%	
Insistent call	L+H* HL%	
Sharp summons	L+H* L%	
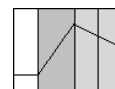
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