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Prosody: Stress, Rhythm, and Intonation

Pilar Prieto and Paolo Roseano

10.1 Introduction

Linguistic prosody has traditionally been referred to as "the music of speech." The acoustic correlates of prosody include the actual melody of speech (the so-called intonation), plus the rhythmic and durational patterns which typically characterize a given linguistic variety, as well as its intensity patterns. In addition to uniquely characterizing a given linguistic dialect or sociolect, prosodic patterns in speech provide it with a set of important linguistic and communicative functions. From a typological point of view, Spanish – like all Romance languages – belongs to the group of so-called intonation languages, that is, languages that use intonation not to distinguish lexical items (as do tonal languages), but rather to express a range of discourse meanings that often affect the interpretation of sentences in discourse. It is well known that pitch contours (together with other prosodic features) in a language like Spanish are key contributors to the semantico-pragmatic interpretation of sentences. Prosody conveys various communicative meanings that range from speech act marking (assertion, question, request, etc.), information status (focus, given vs. new information), belief status (or epistemic position of the speaker with respect to the information exchange), and politeness and affective states, to indexical functions such as gender, age, and the sociolectal and dialectal status of the speaker (see Prieto 2015). For example, depending on how a speaker of Spanish utters the sentence *Tiene frío* '(S)he is cold,' it can convey a variety of non-propositional meanings such as "Can you please close the window?," "He is surprisingly cold," "He is cold, and I am contradicting you," "I am not sure whether he is cold or not," "He is cold, I believe you should know," and "He is uncomfortably cold," among others.[1]

Another important function of prosody is that of marking prosodic phrasing (also called prosodic grouping), where speakers use prosody to group constituents into spoken chunks of information in order to give the

[1] Please also note that one does not necessarily need a specific pitch contour to get the implicature of the utterance *Please close the window*.

listener key information about syntactic groupings. Prosodic phrasing is necessary in Spanish (as well as in many other languages) to disambiguate utterances. Consider, for example, the sentence *Fueron con la madre de Helena y María*. If a speaker places a prosodic boundary after *Helena*, the hearer will probably interpret the sentence as meaning that "They went out with Helena's mother and María." Conversely, if no phrase boundary is placed between *Helena* and *María*, then the hearer will probably understand that "They went out with Helena and María's mother." English is another language that uses prosody to mark prosodic phrasing, as illustrated by the well-known apocryphal book dedication "To my parents, Ayn Rand and God," which is syntactically ambiguous. This ambiguity can be resolved through the use of intonation. If the speaker places a phrase boundary after "parents" and "Ayn Rand," he/she is dedicating the book to his/her parents as well as to Ayn Rand and God. If the speaker does not place a phrase boundary after "parents," he/she is claiming to be the lucky offspring of Ayn Rand and God (Nielsen Hayden 1994).

In addition to the marking of syntactic groupings, intonation plays an important role as an acoustic correlate of information structure. Information structure is commonly thought to be related with the management of common ground information in discourse and involves certain basic concepts like focus, givenness, and topic (see Krifka 2008 for a review). In English, information that has just been given in the immediate context is usually realized with prosodic reduction and lack of accentuation (typically by means of (very) compressed pitch movements associated with the stressed syllable). By contrast, focalized information is realized through strong pitch accentuation (typically by means of expanded pitch movements associated with the stressed syllable). In Spanish, focalization can be achieved by means of different strategies, either syntactic or intonational, which may vary according to the dialect and other factors (such as the type of focus and the syntactic function of the focalized element) (see Vanrell and Fernández-Soriano 2017). In "Narrow Focus Statements" (in Section 10.5.2 below) we will deal briefly with the intonational strategies of focusing used in Spanish.

Despite the importance of prosody in the linguistic system of languages, and specifically Spanish, its study has been relatively neglected in traditional grammars, which have typically concentrated on the description of syntactic and morphological patterns of the language, as well as the study of sounds. The first detailed description of Spanish prosody (based on central Peninsular Spanish read speech) was put forward by Navarro Tomás in his *Manual de pronunciación española* (1918), which included long sections dedicated to stress, rhythm, and intonation. This was followed up by his detailed *Manual de entonación española* (1944), still one of the most comprehensive books on Spanish intonation and prosody. Decades later, Quilis (1981, 1987, 1993) carried out phonetic comparisons of intonational contours of several dialectal varieties of Spanish, including those of Madrid, Mexico City, and Puerto Rico.

In the last two decades, the Autosegmental-Metrical framework of intonation (henceforth AM framework: Pierrehumbert 1980; Pierrehumbert and Beckman 1988; Gussenhoven 2004; Ladd 2008) has been established as one of the standard and most influential models of intonation, leading to an ample consensus among prosody researchers that intonation has a phonological status in natural languages. The AM framework has provided the basis for developing a diverse set of Tones and Break Indices (ToBI) annotation conventions for a large set of typologically diverse languages, all of which have closely followed the tenets of the AM model (see Jun 2005, 2014 for a review). The AM model describes intonational pitch contours as sequences of two main types of phonologically distinctive tonal units, namely pitch accents and edge tones. Pitch accents are intonational movements that associate with stressed syllables, rendering them intonationally prominent or accented. Edge tones (which can be separated into phrase accents and boundary tones) are also fundamental frequency movements that associate with the ends of prosodic phrases. These units are represented in terms of H(igh) and L(ow) targets. By convention, for pitch accents an asterisk "*" indicates association with stressed syllables (e.g. H*, L*, L+H*, and H+L*), and for edge tones "%" indicates association with the final edges of utterances (L%, H%, and LH%, among other possibilities) whereas "-" indicates association with utterance-internal phrase boundaries (L- and H-, among other possibilities). This phonological representation of tones is mapped onto a phonetic representation through language-specific implementation rules (see Gussenhoven 2004; Ladd 2008, for a review).

Within the AM model, Sosa (1999) offered the first integrated analysis of basic intonational contours in a large number of Spanish varieties, from both the Iberian peninsula (based on the speech of informants from Seville, Barcelona, Pamplona, and Madrid) and Latin America (Buenos Aires, Bogotá, Mexico City, San Juan de Puerto Rico, Caracas, Havana, and Lima). The first Spanish ToBI model was proposed by Beckman and colleagues in 2002 (Beckman *et al.* 2002) and has been revised several times since then (see Prieto and Roseano 2010, and Hualde and Prieto 2015 for a review). Most recently, the work of several groups of researchers investigating ten different geographical varieties of Spanish – namely Castilian, Cantabrian, Canarian, Dominican, Puerto Rican, Venezuelan Andean, Ecuadorian Andean, Chilean, Argentine, and Mexican – was compiled in Prieto and Roseano (2010), which offers a fully integrated ToBI analysis of these varieties and thus represents a key reference for any dialectal comparison of prosody in Spanish. Finally, Hualde and Prieto (2015) sum up this knowledge in a general and cross-dialectal overview of work related Spanish prosody.

Typically, the study of Spanish prosody has been separated into four main topics, each the focus of independent study, namely, stress, rhythm, prosodic phrasing, and intonation. This chapter will accordingly address the stress patterns (Section 10.2), rhythmic patterns (Section 10.3), phrasing (Section 10.4), and intonation patterns (Section 10.5) of Spanish.

Importantly, Section 10.4 explains the basics of how to transcribe Spanish intonation and phrasing patterns following the most recent version of the Spanish ToBI labeling system (Sp_ToBI) (for an in-depth hands-on transcription of Spanish prosody, see *Spanish Training Materials*, Aguilar *et al.* 2009).

Though in this chapter we will note the systematic prosodic differences that exist across Spanish dialectal varieties, for purely practical reasons many of the examples given will be based on Peninsular Spanish. For more information on dialectal variation, we invite the reader to access specific dialectal monographs and also listen to the recordings available via the online *Interactive Atlas of Spanish Intonation* (Prieto and Roseano 2009–2013), which at present contains audio examples of 18 different sentence types from 23 locales across the Spanish-speaking world (as well as a video interview and other interactive recordings), and/or AMPER-ESP, the Spanish section of the *Atlas Multimédia de la Prosodie de l'Espace Roman* (Martínez Celdrán and Fernández Planas 2003–2016), which currently offers audio examples of two sentence types from 36 Spanish-speaking locales.

10.2 Stress

Like most Romance languages, Spanish has lexical stress (also called word stress). Lexically stressed syllables are typically one of the last three syllables of the word, except for a few verbs with final enclitics (e.g. *mi**rán**domelo* 'looking at it.me,' where boldface indicates the stressed syllable). Though Spanish has a few minimal triplets contrasting in lexical stress position (e.g. ***ce**lebre* 'famous' vs. *ce**le**bre* 'celebrate.3SG.SBJV' vs. *cele**bré*** 'I celebrated'), there are clear tendencies in stress placement which work differently for the nominal and verbal paradigms. Nouns ending in a vowel in the singular typically have penultimate stress (***ca**sa* 'house'), with some marked antepenultimate stress patterns (*bo**lí**grafo* 'pen') and some exceptional cases of final stress (*domi**nó*** 'domino'). By contrast, nouns ending in a consonant in the singular tend to have final stress[2] (e.g. *ca**mión*** 'truck'), whereas penultimate stress is less common (***lá**piz* 'pencil'), and antepenultimate stress is exceptional (*a**ná**lisis* 'analysis'). In quantitative terms, more than 95 percent of all nouns, adjectives, and adverbs follow the unmarked patterns (Morales-Front 1999:211). In the verbal paradigm, stress is either penultimate or final in the present tense (*ca**mi**no* 'I walk,' *cami**na**mos* 'we walk,' *cami**náis*** 'you walk') and morphologically triggered in other tenses, with stress falling either on the syllable which contains that conjugation or theme vowel (*cami**na**ba* 'I was walking,' *cami**ná**bamos* 'we were walking') or on the tense morpheme (*camina**ré*** 'I will walk,' *camina**re**mos* 'we will walk'). Function words are typically

[2] As is well known, this is for historical reasons. For a detailed description of how Vulgar Latin words ending in VC lost the VC in question, see Lapesa (1984).

unstressed (e.g. *mi* ***ca****sa* 'my house,' *su* ***ca****sa* 'his/her house') with some exceptions (e.g. ***u****na* ***ca****sa* 'a house,' ***es****ta* ***ca****sa* 'this house') (for further details on stressed and unstressed functional words, see Quilis 1993:390–395 and Hualde 2005:233). The unstressed–stressed distinction can give rise to phrasal minimal pairs, as in *para los ca****ba****llos* 'for the horses' vs. ***pa****ra los ca****ba****llos* 's/he stops the horses/stop the horses!' or *bajo la* ***me****sa* 'under the table' vs. ***ba****jo la* ***me****sa* 'I lower the table' (Hualde 2005:233–235).

Lexically-stressed syllables have been reported to have clear acoustic correlates, namely longer durations,[3] higher fundamental frequency, and higher intensity than unstressed syllables (see Pamies Bertrán 1993 for a review of acoustic correlates of stress in Spanish and other languages). However, it is important to note that the pitch correlates of stress (that is, whether the stressed syllable is associated with a high or low tone) will depend mainly on the intonational pattern of the sentence in question (see Section 10.5). For example, while the final stressed syllable of a rising intonation contour such as *¿Tienen mandarinas?* 'Do you have any tangerines?' bears the lowest levels of pitch within the word *mandarinas* (see Figure 10.9 in Section 10.5.3), the contrary is true in a sentence like *¡Tienen mandarinas!* 'They have tangerines!' in which this same syllable bears the highest pitch level. The position of the target word within the sentence will also play a role in pitch levels. On the other hand, the duration correlates of stress are mainly dependent on the phrasal level of prominence that stressed syllables attain. Cross-linguistic evidence has demonstrated that increased duration is an important acoustic correlate of prosodic heads (or prominent units) and edges of prosodic phrases (see Prieto *et al.* 2012 for a review). First, in Spanish, as in other Romance languages, nuclear stress (or main phrasal stress) is the most prominent stress in the sentence and typically falls on the last content word of the sentence, except for very marked cases of emphatic or contrastive focus (Zubizarreta and Nava 2011; see "Narrow Focus Statements" in Section 10.5.2 below). In comparison with English, which exhibits a greater flexibility in the location of nuclear stress, Romance languages usually show greater flexibility in word order and a more consistent tendency to place nuclear stress at the end of an utterance, e.g. English *JOHN bought them* vs. Spanish *Las compró JUAN* (Ladd 2008; Zubizarreta and Nava 2011). Thus, in Spanish, nuclear stressed syllables exhibit the most prominent stress within the sentence and are one of the longest syllables in the sentence, together with phrase-final syllables.

Similarly to nuclear stressed syllables, non-nuclear stressed syllables (also called prenuclear stressed syllables) quite systematically serve as the anchoring site for pitch accents, giving rise to a high pitch accent

[3] The *cordobés* variety of Spanish, spoken in central Argentina, is an interesting exception to the tendency according to which stressed syllables are longer than unstressed syllables. In fact, pretonic syllables have been reported to be considerably longer than stressed syllables in this variety of Spanish (Lang-Rigal 2014).

density. Pitch accents are realized as visible pitch excursions and/or characterized by expanded duration. This one-to-one correspondence between stressed syllables and pitch accents is a feature that contrasts with English pronunciation, which has many more cases of stressed syllables with no associated pitch accent (e.g. Spanish ***Vi****no por det****rás*** *de Ju****lia****na* vs. English *He* ***ca****me after Ju****lia****na*). However, the common one-to-one association between stress and pitch accentuation sometimes breaks down. First, in rhetorical, didactic, or emphatic speech, lexically unstressed (and pretonic) syllables often receive a pitch accent (e.g. ***im****portante* vs. *im****por****tante* 'important'; see Hualde 2007, 2009; Hualde and Nadeu 2014). Second, it is also possible for stressed syllables to surface as unaccented. A contextual prosodic factor leading to de-accentuation is stress clash. For example, an utterance like *de****trás su****yo* 'after him/her' is typically produced with one pitch accent over the last stressed syllable (in other words, the pitch accent we would typically expect on *de****trás*** is not realized due to clash). Although the prominence of the stressed syllable in such cases tends to be conveyed by duration in the absence of a pitch excursion, complete de-accentuation is also possible (see examples in Hualde and Prieto 2015).

10.3 Rhythm

Rhythm refers to the organization of timing in speech, and it has been shown to be different across languages (see Ramus *et al.* 1999 for a review). Spanish, together with languages such as Italian, has been classified as a syllable-timed language, as opposed to stress-timed languages like English or Dutch. In stress-timed languages stressed syllables are significantly longer than unstressed syllables, creating the sensation of a Morse-type rhythmic effect; by contrast, syllable-timed languages like Spanish create a stronger perception of equal prosodic saliency across syllables.

Work on linguistic rhythm has strongly correlated the differences in rhythmic percept found between languages with a set of language-specific phonetic and phonological properties, of which the two most often cited are syllabic structure and vowel reduction. While stress-timed languages like English have a greater range of syllable structure types, allowing for more complex codas and onsets, and also exhibit vowel reduction, syllable-timed languages like Spanish, by contrast, tend to have a significant proportion of open syllables and no vowel reduction. It has been suggested that the coexistence of these sets of phonological properties is responsible for promoting either a strong saliency of stressed syllables in relation to other syllables – yielding the "stress-timed" effect – or the percept of equal salience between syllables – yielding the "syllable-timed" effect.

Apart from this tendency, cross-linguistic studies on speech rhythm have investigated the timing (or duration patterns) of speech and have found differences in overall timing patterns across languages, as well as what has

been called "rhythm metrics" (see Prieto *et al.* 2012 for a review). In a recent study, Prieto *et al.* (2012) showed that when syllable structure properties are controlled for, timing patterns for Spanish and English can be traced back to the duration measures of prominent positions (e.g. accented, nuclear accented, and stressed syllables) and edge positions (e.g. distances to phrase-final positions).

10.4 Intonation and Phrasing

Intonation is what we call in daily language "the melody of an utterance." In more technical terms, it is the linguistic use of the modulation of F0 (or fundamental frequency, which is the lowest harmonic in voiced parts of speech). As noted in the Introduction, intonation has two main linguistic functions: (i) to mark phrasing (see "Levels of Prosodic Phrasing" in Section 10.4.1), and (ii) to encode speech act distinctions, sentence modality, focus (see Section 10.5.2), and belief state (see "Statements of the Obvious" and "Uncertainty Statements," also in Section 10.5.2). We will start this section by explaining the basics of prosodic transcription in Spanish using the Sp_ToBI conventions (see Section 10.4.1). As we do so, however, it is important to bear in mind that dialectal variation (also called diatopic or geographic variation) affects all aspects of Spanish, including intonation.

10.4.1 Transcription of Spanish Prosody Using the Sp_ToBI System

As mentioned, the most common system used at present to transcribe the intonation of Spanish relies on the premises of the Autosegmental-Metrical model and is known by the acronym Sp_ToBI (see the Introduction, Section 10.1). Since its inception nearly two decades ago (Beckman *et al.* 2002) Sp_ToBI has been periodically updated (Hualde 2003, Face and Prieto 2007, Estebas Vilaplana and Prieto 2008, Prieto and Roseano 2010, Hualde and Prieto 2015), so that it can now be used to transcribe the intonation of virtually all dialects of Spanish. The existence of a common transcription system allows for easy comparison of the intonation and phrasing patterns of the different geographic varieties of the language.

An example of Sp_ToBI transcription can be seen in Figure 10.1 for the imperative question *¿Callaréis?* 'Will you be quiet?' as uttered by a speaker of southern Peninsular Spanish (Henriksen and García-Amaya 2012). The three labeling tiers below the acoustic plot contain an orthographic (or phonetic) transcription of the sentence (top tier), followed by the prosodic annotation in two tiers, namely the Break Indices tier (second tier) and the Tones tier (third tier). The content of the Break Indices and Tones tiers is explained in the following sections ("Levels of Prosodic Phrasing" and "Pitch Accents and Boundary Tones").

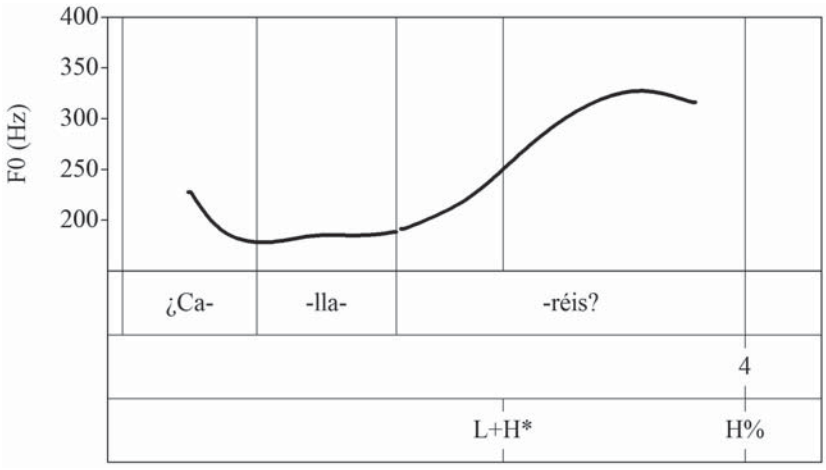


Figure 10.1 Prosodic features of the imperative question *¿Callaréis?* 'Will you be quiet?' as uttered by a speaker of southern Peninsular Spanish

Levels of Prosodic Phrasing

Two levels of prosodic structure are relevant in the Sp_ToBI notation system: the Intonation Phrase (IP) and the intermediate phrase (ip). The IP is the domain of the minimal tune, and consists of at least one pitch accent followed by a boundary tone. The ip is a minor domain located below the IP which usually corresponds to different types of syntactic elements such as a clause, a dislocated element, a parenthetic element, the subject of the utterance, each element of an enumeration, and so on. In every ip there may be one or more prosodic words (or PW). A PW, in its turn, is made up of one accented word and the adjacent unstressed elements, like articles, prepositions, and so on.

When transcribing the prosody of an utterance according to the Sp_ToBI system, the prosodic phrasing is reflected in the Break Indices or "BI tier," which contains information about the edges of prosodic units. A 4 in this tier marks the end of an IP, while a 3 marks the end of a non-final ip. A 1 marks the end of a PW and 0 can be used (optionally) to mark the end of an unstressed element. Finally, according to the *Sp_ToBI Training Materials* (Aguilar *et al.* 2009), a level 2 break index is supposed to mark two different types of breaks that are less common, namely a perceived disjuncture with no intonation effect, or an apparent intonational boundary that lacks slowing or other break cues.

Pitch Accents and Boundary Tones

Sp_ToBI makes use of two different sets of symbols for tonal events. On the one hand, there are pitch accents (henceforth PA), which are the tonal events anchored to a stressed syllable. On the other, there are boundary tones (henceforth BT), which are the tonal events anchored to phrase-final edges. PAs can appear in either nuclear or prenuclear position (see the Introduction, Section 10.1). The combination of the last PA of an utterance and the following BT is called the nuclear configuration. In Romance languages, the nuclear configuration usually contains the most important

Table 10.1 *Schematic representation, Sp_ToBI labels, and phonetic descriptions of the most common pitch accents in Spanish*

	Monotonal pitch accents	
	L*	This pitch accent is phonetically realized as a low plateau at the minimum of the speaker's pitch range.
	H*	This accent is phonetically realized as a high plateau with no preceding F0 valley.
	iH*	This accent is phonetically realized as a rise from a high plateau to an extra-high level.
	Bitonal pitch accents	
	L+H*	This accent is phonetically realized as a rising pitch movement during the stressed syllable with the F0 peak located at the end of this syllable.
	L+iH*	This pitch accent is phonetically realized as rise to a very high peak located in the accented syllable. It contrasts with L+H* in F0 scaling.
	L+<H*	This accent is phonetically realized as a rising pitch movement in the stressed syllable with the F0 peak in the post-accentual syllables.
	L*+H	This accent is phonetically realized as a F0 valley on the stressed syllable with a subsequent rise on the post-accentual syllable.
	H+L*	This accent is phonetically realized as a F0 fall from a high level within the stressed syllable.
	Tritonal pitch accent	
	L+H*+L	This pitch accent displays a rising–falling pattern within the stressed syllable.

Note: In the schematic representations, white rectangles represent unstressed syllables and gray rectangles represent stressed syllables.

information transmitted by intonation (see Section 10.5 for some examples of how different nuclear configurations encode sentence modality). Although the main difference between two pitch contours typically lies in the nuclear configuration, the prenuclear part can also differ.

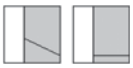
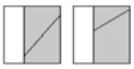
Table 10.1 contains a description of the most frequent PAs found in Spanish ToBI systems, which may be grouped into four families: flat,

rising, falling, and rising–falling (based on Prieto and Roseano 2010, Hualde and Prieto 2015). Some of these PAs are used in all dialects (like L+H*), while others seem to have a very specific geographic distribution (like L+H*+L, which appears only in Argentine dialects). Most pitch accents may appear in either nuclear position (i.e. associated with the last stressed syllable) or prenuclear position (i.e. associated with any stressed syllable except the last). A few pitch accents (like L+<H*), on the other hand, do not appear in nuclear position. Figures 10.2–10.16 offer different examples of the various PA types.

In general, Spanish displays quite a rich inventory of boundary tones, which are the tones associated with the right edge of either an IP (in this case they are marked with a % symbol) or an ip (in this case a - symbol is used). Nonetheless, not all Spanish dialects are equally rich in BTs: while some, like Castilian Spanish, have up to six boundary tones, other varieties like Dominican Spanish – which has only four BTs – make use of a more limited set (Willis 2010).

Boundary tones may have different degrees of complexity, being either monotonal or bitonal. Table 10.2 contains a schematic representation and detailed description of the most frequent BTs found in Spanish (based on Aguilar *et al.* 2009, Prieto and Roseano 2010, Hualde and Prieto 2015).

Table 10.2 *Schematic representation, Sp_ToBI labels, and phonetic descriptions of the most common boundary tones in Spanish*

Monotonal boundary tones		
	L%	This boundary tone is phonetically realized as a low or falling tone at the baseline of the speaker.
	!H%	This boundary tone is phonetically realized as a rising or falling movement to a target mid point.
	H%	This boundary tone is phonetically realized as a rising pitch movement coming from a low or rising pitch accent.
Bitonal boundary tones		
	LH%	This boundary tone is phonetically realized as a F0 valley followed by a rise.
	L!H%	This boundary tone is phonetically realized as a F0 valley followed by a rise into a mid pitch.
	HL%	This boundary tone is phonetically realized as a F0 peak followed by a fall.

Note: In the schematic representations, white rectangles represent stressed syllables and gray rectangles represent final unstressed syllables.

The intonation contours illustrated in the following section will be analyzed as a series of Sp_ToBI pitch accents and boundary tones.

10.5 Main Intonation Contours

As we have observed (see the Introduction, Section 10.1), one of the main functions of intonation in Spanish is to mark speech act information, in other words, to indicate whether we intend a sentence to be interpreted as an assertion, a question, a request, etc. Within these speech acts, intonation can also mark information status (focus, given vs. new information), as well as belief status (epistemic position of the speaker with respect to the information exchange). In this section, we will exemplify the most common intonation contours characterizing assertions (Sections 10.5.1 and 10.5.2), yes–no questions (Sections 10.5.3 and 10.5.4), *wh*-questions (Section 10.5.5), imperatives (Section 10.5.6), and vocatives/calls (Section 10.5.7).

A comprehensive description of the intonation contours of the most important sentence-types in the major Spanish dialects would require a few hundred pages (Prieto and Roseano 2010 being a case in point). For this reason, in the following pages we will focus on the intonation patterns of a few sentence types found in Castilian Spanish (also known as central Peninsular Spanish) and limit ourselves to noting only the most salient differences between Castilian and other Spanish dialects. The reason why Castilian Spanish has been chosen is that it is one of the varieties that has been described most extensively from a prosodic point of view. The reader will find the actual sound files as well as more complete acoustic representations of those files and dialectal recordings of similar sentences online in the *Interactive Atlas of Spanish Intonation* (Prieto and Roseano 2009–2013).

10.5.1 Broad Focus Statements

A broad focus statement is a sentence that typically communicates a piece of information that is new to the hearer. The information is given neutrally, without any further added nuance (like surprise, doubt, and so on). For example, imagine that a parent calls home to find out what his/her children, named María and Juan, are doing. Juan's answer illustrated in (10.1) is usually realized as a broad focus statement.

(10.1) SPEAKER A (PARENT): What are you guys up to?
SPEAKER B (JUAN): María's drinking her lemonade.

In most dialects of Spanish, broad focus statements display a pitch contour that is similar to that represented in Figure 10.2. It is characterized by a pitch rise associated with the first stressed syllable (a L+< H*

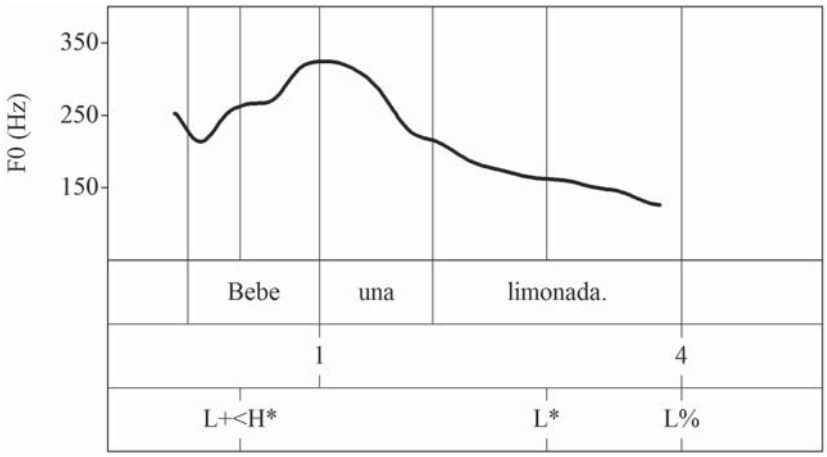


Figure 10.2 F0 contour, spectrogram, orthographic transcription, and prosodic annotation of the broad focus statement *Bebe una limonada* 'He/she's drinking the [his/her] lemonade' in Castilian Spanish

pitch accent in the example below) followed by a set of optional rising pitch accents. The sentence ends in a nuclear stress (or main phrasal stress), which is the most prominent stress in the sentence and is typically realized with a low or falling pitch movement L* followed by a low final boundary tone L%.

One notable exception to the general tendency of Spanish dialects to have a falling pitch movement at the end of assertions is the so-called *entonación circunfleja* ("circumflex intonation") seen in some American varieties like Mexican and Chilean Spanish. Note, however, that in these two dialects the circumflex pattern applied to broad focus statements is an alternative to but does not completely replace the falling contour (Ortiz *et al.* 2010; Martín Butragueño and Mendoza 2017). This circumflex pattern, characterized by a rise associated with the last stressed syllable (L+H*) and a final fall to a low level (L%), is represented in Figure 10.3, adapted from Martín Butragueño and Mendoza (2017).

In addition, other dialects diverge in the choice of prenuclear pitch accents. For example, varieties like Puerto Rican Spanish use L*+H instead of L+<H* (Armstrong 2010).

10.5.2 Biased Statements

As mentioned above, two of the main functions of intonation are to mark information structure and belief status (e.g. the epistemic position of the speaker with respect to the information exchange). In this section we describe the typical intonation patterns found for narrow focus statements, statements of the obvious, and uncertainty statements.

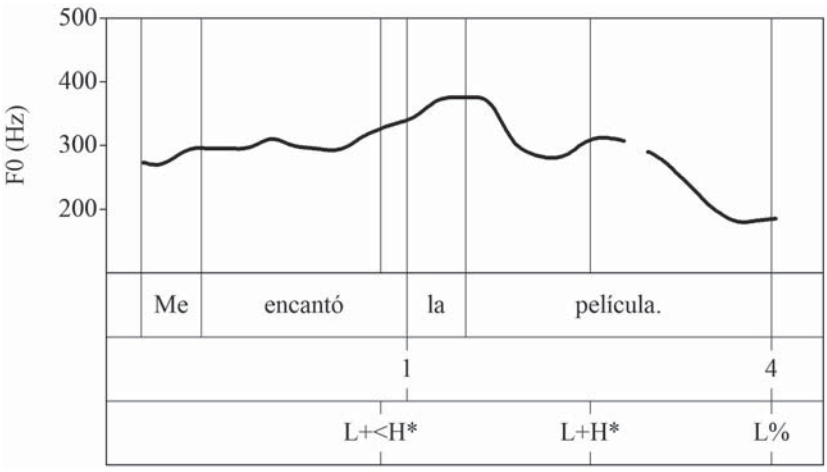


Figure 10.3 F0 contour, spectrogram, orthographic transcription, and prosodic annotation of the broad focus statement *Me encantó la película* 'I loved the film' as uttered by a speaker of Mexican Spanish

Narrow Focus Statements

Whereas in broad focus statements all information is new for the listener, in narrow focus statements only part of the information is in focus. For example, the question–answer test in (10.2) shows that the focused material in the response sentence corresponds to the constituent *mi hermana*, while the information that precedes it (i.e. *Las ha comprado*) is mutually assumed by the two interlocutors.

(10.2) SPEAKER A: *¿Quién ha comprado manzanas?*
SPEAKER B: *Las ha comprado mi hermana.*

In Spanish focus marking can alter the canonical SVO order (see Chapter 17, this volume, for an overview). In the example in (10.2), the subject has moved to final position, where it receives main stress in a nuclear stress (or main phrasal stress), which is the most prominent stress in the sentence and is typically realized with a low or falling pitch accent L* followed by a low final boundary tone L%. The intonation of informative narrow focus statements in Spanish is usually the same as that of broad focus statements (Section 10.5.1).

There are two main kinds of narrow focus statement, informative and corrective/contrastive. While the response in (10.2) constitutes an example of informative narrow statement, the examples in (10.3a) and (10.3b) exemplify two types of corrective or contrastive narrow focused statements which challenge and replace information given previously in the discourse. The contrastively focused element may either appear in its canonical position (like in 10.3a) or be displaced (as in 10.3b) (Vanrell *et al.* 2013).

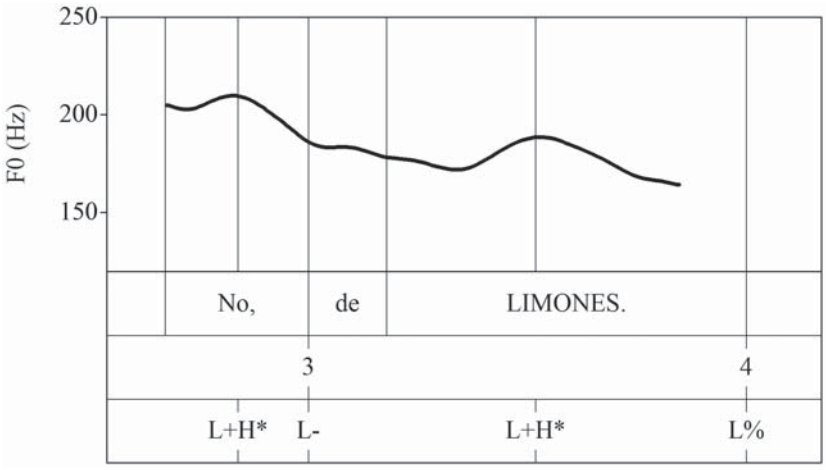


Figure 10.4 F0 contour, spectrogram, orthographic transcription, and prosodic annotation of the narrow focus statement *No, de LIMONES* 'No, [I want a kilo] of LEMONS' as uttered by a speaker of Castilian Spanish

(10.3) SPEAKER A: *Quiero un quilo de limones.*
SPEAKER B: *¿Qué has dicho, que quieres mandarinas?*

a. SPEAKER A:	*No.*	*Quiero*	*LIMONES.*
	No.	want.1SG	LEMONS.
b. SPEAKER A:	*No.*	*LIMONES,*	*quiero.*
	No.	lemons	want.1SG

Independently from its position within the sentence, many Spanish dialects signal this corrective focused element through a salient F0 movement, typically a pitch rise, which allows the listener to easily identify it. In all the Spanish dialects documented, this contour is different from that seen in broad focus statements. Although there are differences among dialects, the focal pitch accent is mostly either high or rising. In Castilian Spanish, for example, the focused element is characterized by a rising L+H* accent and a final low boundary tone (L%), as can be seen in Figure 10.4.

Although the strategy described above is very common, it is not the only one. More details on the different focus marking strategies in Spanish may be found in Face (2002) and Vanrell and Fernández-Soriano (in press), among others.

Statements of the Obvious

By using a statement of the obvious, a speaker expresses his/her opinion that the listener should already know the information. Imagine, for example, that two friends are speaking about a mutual long-term acquaintance, María, as in (10.4). They both know that she has been dating her boyfriend, Guillermo, since they were very young. Speaker A tells B that María is now pregnant and B asks who the father is. Speaker A tells her it is Guillermo, astonished that Speaker B should not have drawn the obvious conclusion.

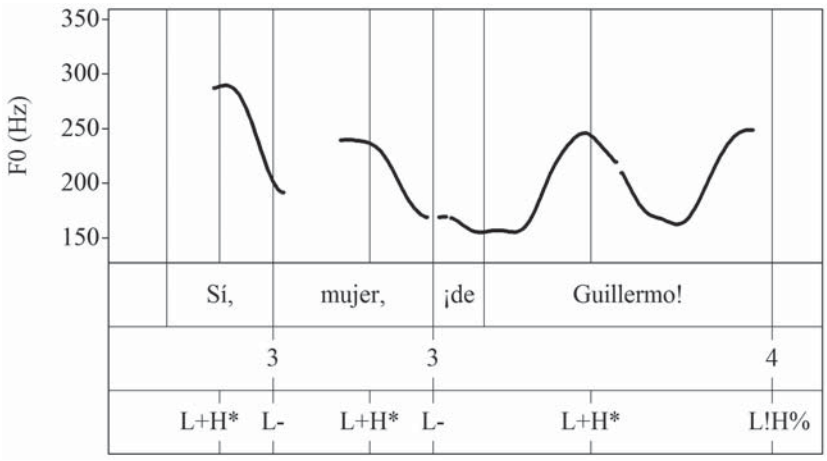


Figure 10.5 F0 contour, spectrogram, orthographic transcription, and prosodic annotation of the statement of the obvious *Sí, mujer, ¡de Guillermo!* '[It's] Guillermo's [of course]!' as uttered by a speaker of Castilian Spanish

(10.4) SPEAKER A: María's pregnant.
SPEAKER B: Whose baby is it?
SPEAKER A: It's Guillermo's, of course!

While some languages mark obviousness with a lexical item (like "of course" in English), some dialects of Spanish employ a specific intonational pattern to convey the same meaning. The pattern used to express obviousness in many Peninsular Spanish dialects (like Castilian, Cantabrian, and Canarian Spanish) and some Latin American varieties (like Puerto Rican and Mexican Spanish) is a complex rise-fall-rise pitch movement (L+H* L!H% in Sp_ToBI terms). The F0 contour in Figure 10.5 illustrates this rise-fall-rise pitch contour on the word *Guillermo*.

Other Latin American Spanish varieties like Dominican, Venezuelan Andean, Ecuadorian Andean, Chilean, and Argentine Spanish tend to express obviousness using the same intonation pattern as that seen in narrow focus statements (discussed above).

Uncertainty Statements

Uncertainty statements are used by speakers to convey a lack of commitment to the truth-content of the proposition being expressed. The conversational exchange in (10.5) illustrates a context for low commitment statement, where A asks B whether he/she has bought a gift for C, a person that A does not know very well. B answers positively, but adds that he/she is not sure whether C will like the gift or not.

(10.5) SPEAKER A: Have you bought a gift for C?
SPEAKER B: Yes, I have. But she may not like it.

While some languages mark uncertainty with a set of lexical items (such as modal verbs like "might" or epistemic adverbs like "possibly"), some Spanish

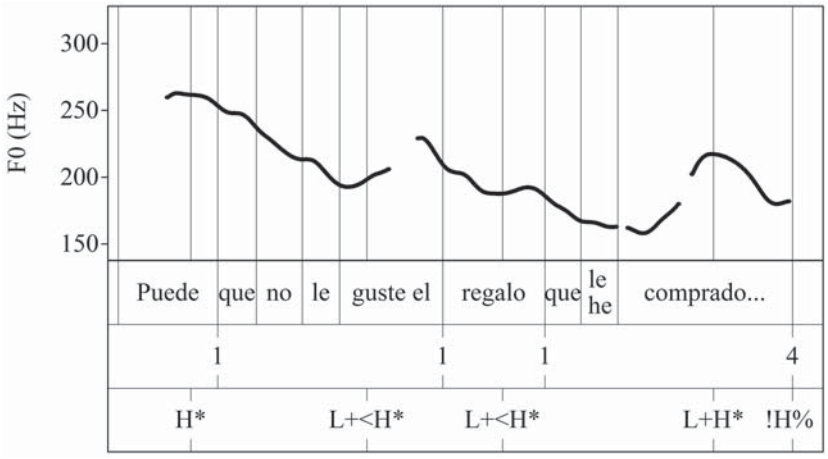


Figure 10.6 F0 contour, spectrogram, orthographic transcription, and prosodic annotation of the uncertainty statement *Puede que no le guste el regalo que le he comprado* . . . 'S/he may not like the gift I have bought him/her' as uttered by a speaker of Castilian Spanish

dialects can also employ specific intonational patterns to convey this meaning. For example, Castilian Spanish expresses uncertainty by means of a final rising–falling movement that does not fall to the baseline of the speaker's range (L+H* !H% in Sp_ToBI terms), as illustrated in Figure 10.6.

10.5.3 Information-Seeking Yes–No Questions

Information-seeking yes–no questions are used to ask for a piece of information, with no expectation about the possible answer. Research has shown that the intonation of information-seeking yes–no questions can differ sharply among the different dialects of Spanish (Navarro Tomás 1944; Quilis 1993; Sosa 1999; Prieto and Roseano 2010). In very broad terms, interrogative pitch contours can be classified into rising and falling contours. Central and southern Peninsular Spanish, Ecuadorian Andean, Chilean, and Mexican Spanish all use a pitch contour characterized by a final low-rise. On the other hand, a second dialect cluster including Canarian, Argentine, Venezuelan Andean, and several Caribbean varieties (like Cuban, Dominican, and Puerto Rican) use a pitch contour with a final falling pattern. Figure 10.7 illustrates a rising pattern (the one used in Castilian Spanish), while Figures 10.8 and 10.9 offer examples of falling patterns from, respectively, Puerto Rican (Armstrong 2015) and Argentine Spanish (Kaisse 2001; Gabriel *et al.* 2010). The rise–fall pitch contour seen in Argentine Spanish has a very characteristic final long fall.

10.5.4 Biased Yes–No Questions

Biased yes–no questions are a rather heterogeneous group that includes several kinds of polar questions that a speaker asks when his/her intention

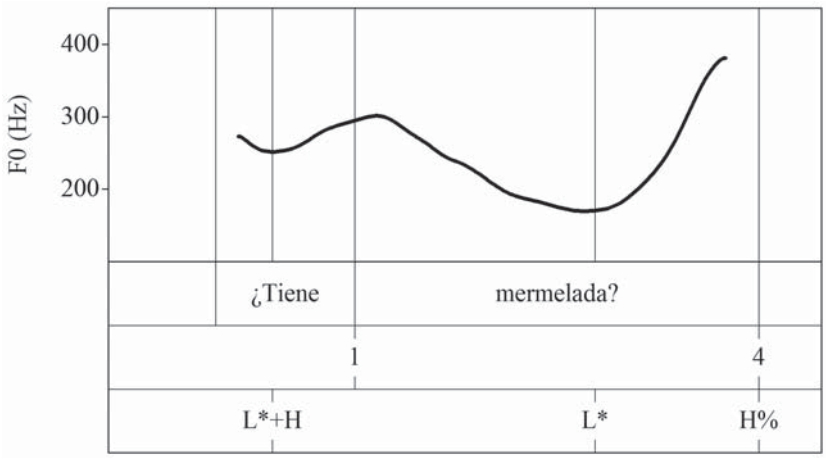


Figure 10.7 F0 contour, spectrogram, orthographic transcription, and prosodic annotation of the information-seeking yes–no question *¿Tiene mermelada?* 'Do you have any jam?' as uttered by a speaker of Castilian Spanish

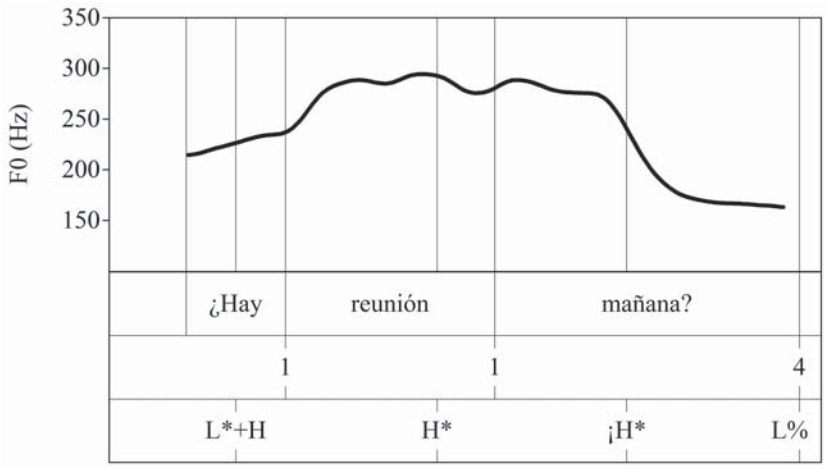


Figure 10.8 F0 contour, spectrogram, orthographic transcription, and prosodic annotation of the information-seeking yes–no question *¿Hay reunión mañana?* 'Is there a meeting tomorrow?' as uttered by a speaker of Puerto Rican Spanish

is not simply to ask for a piece of information about which he/she has no expectation. Among them, confirmation questions, imperative questions, and echo questions are the most common.

Confirmation-Seeking Questions

When someone asks a confirmation question, he/she has some kind of expectation about the answer. Some languages, like English, usually encode this expectation by means of a tag question, which means that the speaker utters a statement followed by a confirmation tag like "isn't it?" This can happen in Spanish too, where the most common confirmation tags are *¿no?*

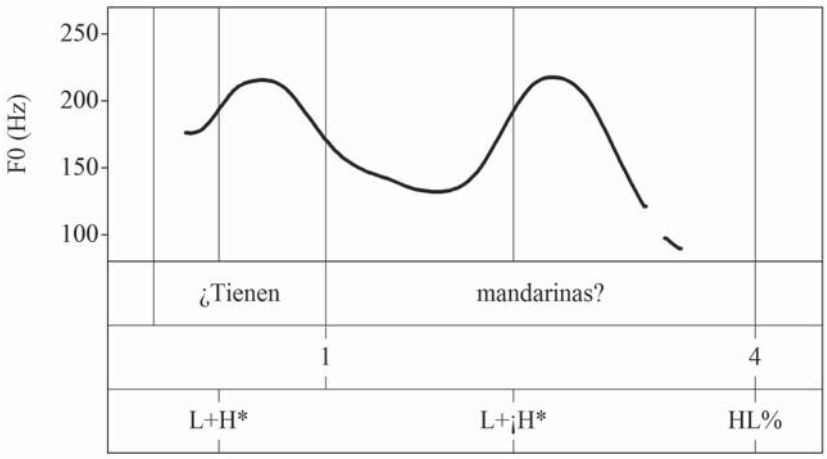


Figure 10.9 F0 contour, spectrogram, orthographic transcription, and prosodic annotation of the information-seeking yes–no question *¿Tienen mandarinas?* 'Do you have any tangerines?' as uttered by a speaker of Argentine Spanish

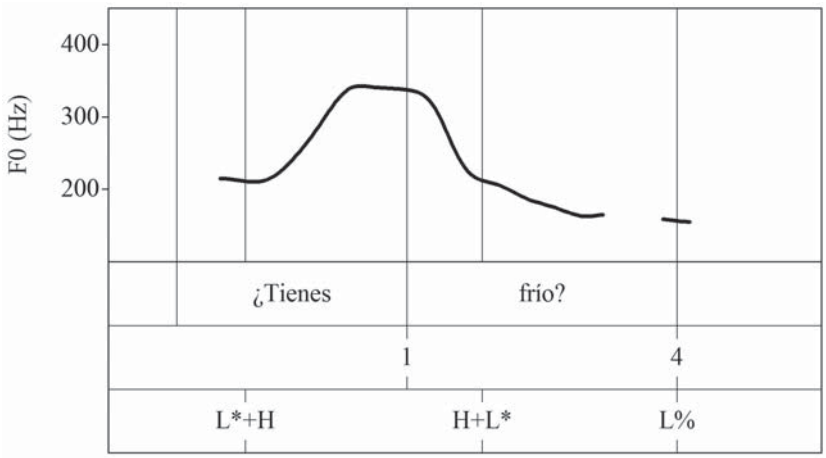


Figure 10.10 F0 contour, spectrogram, orthographic transcription, and prosodic annotation of the confirmation question *¿Tienes frío?* 'Are you cold?' as uttered by a speaker of Castilian Spanish

and *¿verdad?* '[isn't that the] truth?' In addition to this lexical marking of confirmation-seeking, several varieties of Spanish have specific contours that appear in confirmation-seeking yes–no questions.[4] Speakers of Castilian Spanish, for example, may use the falling pattern exemplified in Figure 10.10 (transcribed as H+L* L% in Sp_ToBI terms), which is radically different from the rising contour of information-seeking yes–no questions that we saw in Section 10.5.3 (Figure 10.7).

[4] "Confirmation-seeking question" is the traditional interpretation/label of the pragmatic function of this contour. Recent research suggests that "confirmation-seeking questions" can be better understood in terms of belief/epistemic states (Armstrong 2015; Henriksen *et al.* 2016).

Echo Questions

An echo question is a question that repeats more or less verbatim an element that precedes it in the exchange, as illustrated by Speaker A's final "It's nine o'clock?" in (10.6). Echo questions may indicate that a person is not sure he/she has understood what an interlocutor has said, as in (10.6), but they may also be used to show that the speaker has understood the preceding utterance but is surprised or even astonished by it, as in (10.7).

(10.6) SPEAKER A: What time is it?
SPEAKER B (whispering): It's nine o'clock.
SPEAKER A: What? It's nine o'clock?

(10.7) SPEAKER A: Have you heard anything about Tracy lately?
SPEAKER B: She's marrying Sam.
SPEAKER A: She's marrying Sam?! Wow!

Echo questions show considerable interdialectal variation in Spanish. One of the most common nuclear configurations used for echo questions is the rise–fall tune, which is characterized by a rise to an extra-high level in the last stressed syllable followed by a fall (L+¡H* L% in ToBI transcription). This contour is found in, among other dialects, Canarian and Castilian (Figure 10.11). The more incredulous echo questions like that exemplified in (10.7) are realized either with the contour described above but with an expanded pitch range, or with a specific incredulity pitch contour (see a description of the incredulity interrogative contour L* HL% in Armstrong 2015).

10.5.5 Information-Seeking *wh*-Questions

Information-seeking *wh*-questions are used when speakers ask for a specific piece of information without any further pragmatic intention.

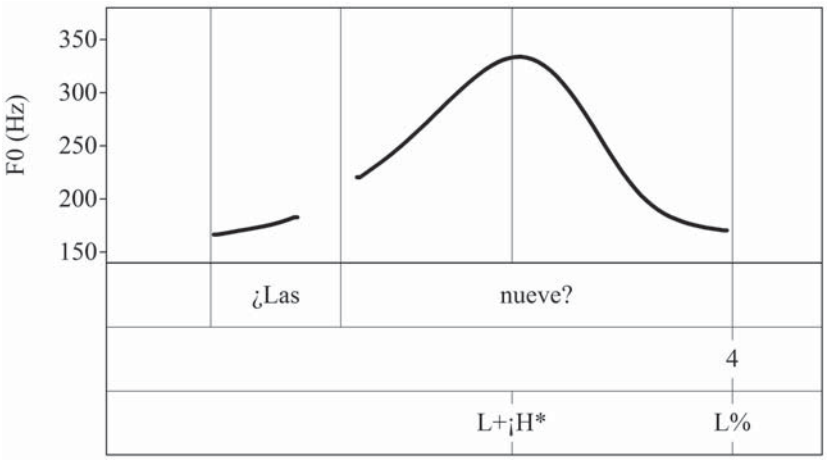


Figure 10.11 F0 contour, spectrogram, orthographic transcription, and prosodic annotation of the echo question *¿Las nueve?* 'Nine o'clock?' as uttered by a speaker of Castilian Spanish

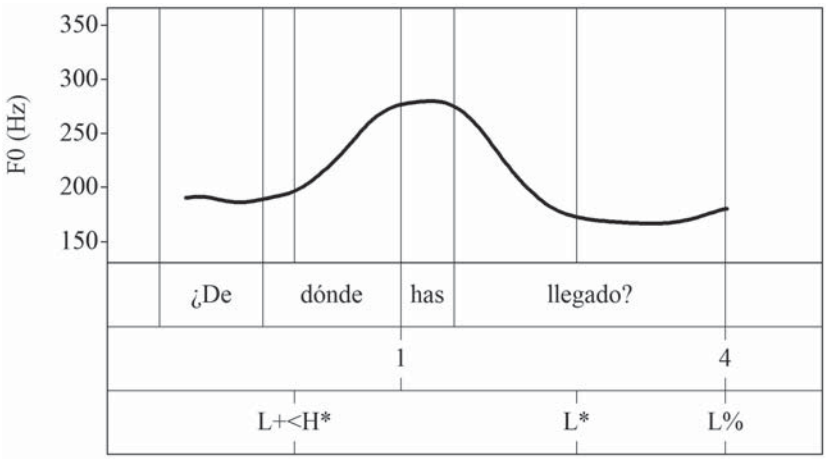


Figure 10.12 F0 contour, spectrogram, orthographic transcription, and prosodic annotation of the information-seeking *wh*-question *¿De dónde has llegado?* 'Where have you arrived from?' as uttered by a speaker of Castilian Spanish

The pitch contour of this sentence type displays as much dialectal variation as that seen in yes–no questions. Nevertheless, the general tendency is for *wh*-questions to end with a low tone, as illustrated in Figure 10.12.

10.5.6 Commands and Requests

Imperatives are linguistic expressions which communicate either an order or a request, depending on the intonation used. For example, the intonation of "Come here!" as spoken by a dog owner to his/her errant dog will reflect the full authority the speaker feels relative to the animal. By contrast, the intonation of "Come on, man!" as spoken by someone trying to cajole a friend into forgetting their work obligations and accompanying him/her to the cinema will reflect a much more peer-to-peer kind of relationship.

In most dialects of Spanish, intonational pitch contours used for orders typically show a final fall or a rise–fall. In other words, they tend to use either the same pitch contour as that used for broad focus statements (Venezuelan Andean, Ecuadorian Andean, and Argentine Spanish) or the pitch contour used for narrow focus statements (Castilian, Canarian, Chilean, and Mexican Spanish). Figure 10.13 provides an example of an imperative in Castilian Spanish, where orders are expressed by means of a rising–falling final movement (L+H* L% in Sp_ToBI terms).

Though imperative requests in Spanish are typically also encoded by means of lexical items like *va* 'come on' or *por favor* 'please,' intonation (as well as a much slower speech rate) plays a key role in conveying this intention. Most dialects use a configuration that is different from that used for orders. In the case of Castilian Spanish, for example, the

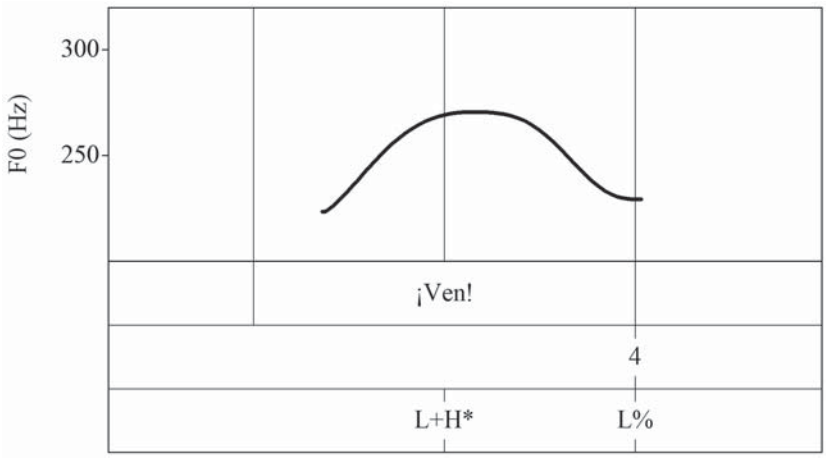


Figure 10.13 F0 contour, spectrogram, orthographic transcription, and prosodic annotation of the command *¡Ven!* 'Come here!' as uttered by a speaker of Castilian Spanish

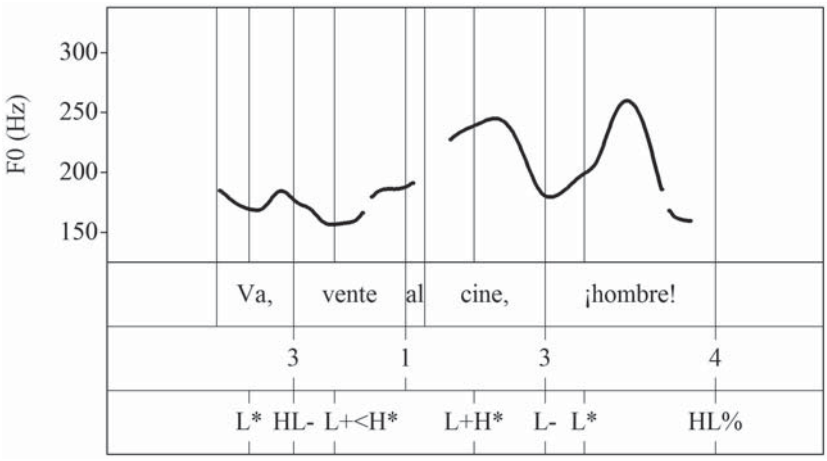


Figure 10.14 F0 contour, spectrogram, orthographic transcription, and prosodic annotation of the cajoling imperative request *Va, vente al cine, ¡hombre!* 'Come on, come to the cinema, man!' as uttered by a speaker of Castilian Spanish

imperative request contour is characterized by a complex fall–rise–fall pitch contour (L* HL%). While the low part of the nuclear configuration (L*) is temporally associated with the final stressed syllable, the final rise–fall boundary tone (HL%) is associated with the post-tonic syllables. This intonation contour is exemplified in Figure 10.14.

10.5.7 Calls

Vocatives are used to call someone's attention, with different degrees of insistence and/or imperativeness. In several intonational languages calls

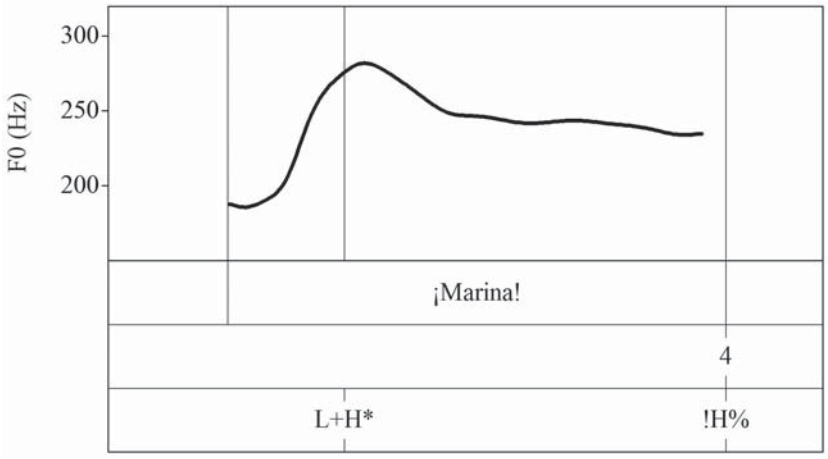


Figure 10.15 F0 contour, spectrogram, orthographic transcription, and prosodic annotation of the call *iMarina!* 'Marina!' uttered with the common calling contour

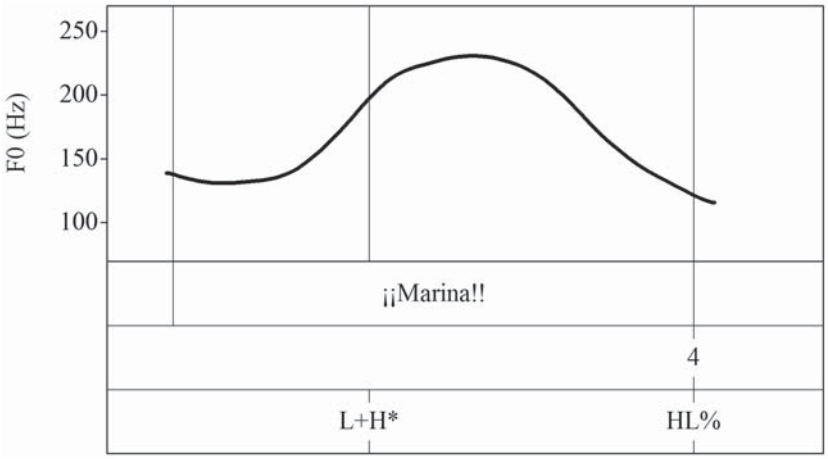


Figure 10.16 F0 contour, spectrogram, orthographic transcription, and prosodic annotation of the insistent call *¡¡Marina!!* 'Marina!!'

are characterized by a chanted intonation (L+H* !H% in Sp_ToBI terms). This contour, which is found in most Spanish dialects, shows an F0 rise in the stressed syllable, followed by a fall to a mid level in the following unstressed syllables (which are usually considerably lengthened), like what we see in Figure 10.15.

A slightly different pitch contour, which seems to convey a more insistent or imperative nuance in several varieties of Spanish, is characterized by a rise in the stressed syllable that ends in the post-tonic stretch and a final fall to the baseline of the speaker's range (L+H* HL% in Sp_ToBI labels). Figure 10.16 offers an example of this contour.

10.6 Summary and Conclusion

This chapter has presented a brief overview of the main features of Spanish prosody and intonation. From a typological perspective, Spanish is a prominence-final language which tends to assign nuclear prominence (or nuclear stress) to the last stressed syllable of the intonational phrase. This contrasts with English, which has a more flexible placement of nuclear stress within the intonational phrase (see Section 10.2). With regard to rhythm, Spanish is a syllable-timed language and therefore does not exhibit a sharp durational difference between stressed and unstressed syllables, unlike stress-timed languages like English (see Section 10.3). Another difference concerns pitch accent density: while Spanish has a tendency to show a one-to-one correspondence between stressed syllables and pitch accents, this is not the case for languages like English.

From an intonational point of view, Spanish is an intonational language which uses melodic modulations for a wide set of pragmatic functions, including speech act marking, epistemic marking, and information structure marking. The present chapter has presented the most common melodic contours used to mark these distinctions (see Sections 10.4 and 10.5). Though most of the examples are drawn from the Peninsular Spanish varieties, we have also illustrated some clear differences between dialects, such as the so-called Mexican declarative circumflex contour (Sosa 1999; Martín Butragueño and Mendoza 2017) or the long fall of Argentine interrogatives (see Kaisse 2001; Gabriel *et al.* 2010). For readers interested in these interdialectal differences in Spanish intonation, we recommend accessing the audio and video recordings of nine dialects of Spanish available at the *Interactive Atlas of Spanish Intonation* website (Prieto and Roseano 2009–2013).

Finally, throughout the chapter we have made use of the most recent version of Sp_ToBI, a consensus prosody transcription system based on the Autosegmental-Metrical model (see Section 10.4.1). Importantly, the fact that full Sp_ToBI descriptions of many of the dialectal varieties of Spanish are now available has meant that cross-dialectal comparisons of Spanish prosody can now be very easily made.

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