AN ANALYSIS OF INTONATION PATTERNS IN ECUADORIAN CUENCANO SPANISH:

A SP_ToBI DESCRIPTION

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ABSTRACT

El Cantado Cuencano 'Cuencano singing' constitutes the hallmark of Cuenca citizens. This colloquially described intonational feature is what makes Cuencano Spanish one of the most prosodically interesting Andean dialects in the country of Ecuador. There is, however, a lack of scientific research conducted on this dialect's intonation, which can be considered as under-documented up to this point. Therefore, the main objective of the present study was to begin to analyze and document Cuencano Spanish intonation patterns. In addition, this research also aimed to provide scientific evidence and draw plausible conclusions to support or refute the impressionistic observations about the Indigenous origins of the Cuencano singing.

A sample of 550 utterances produced by 5 male and 5 female participants was collected in order to conduct this research. The sample comprised 11 categories that included declarative statements, yes/no questions, exclamative statements, wh-questions, imperatives, lists, conditionals, tag-questions, interjections, negative statements, and vocatives. The tokens were analyzed using Praat and labeled by implementing the Spanish version of the Tones and Break Indices system (Sp_ToBI).

It was found that the presence of the emphatic pitch accent labeled as L+^H* and the high frequency appearance of bitonal pitch accents, such as L+H* and H+L*, in almost every token in the data set suggest that Cuencanos speak with a variety of degrees of tonal emphasis. This translates into a mixture of a substantial number of rising and falling tones found in Cuencanos' speech. These findings account for the appearance of the highly marked singing quality of Cuencano Spanish or *Cantado Cuencano*. They may also be linked to impressionistic descriptions, such as *esdrujulizacion*, and the influence that Indigenous languages and culture had on Cuencano Spanish.

ACKNOWLEDGEMENTS

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1. INTRODUCTION

Despite its small territory, Ecuador stands out as one of the richest countries in South America in terms of raw linguistic data suitable for research. Until recently, the nation's first and dominant language, Spanish, played such an important role in both political and public affairs that substantial influences from Indigenous languages were often overlooked. Nowadays, however, the contribution of the wide variety of Indigenous people that inhabited modern day Ecuador has begun to be recognized by linguists who realize the impact that Indigenous languages have had on the development of Ecuadorian Spanish dialects.

The dialect of Spanish spoken in the city of Cuenca, the 3rd largest Ecuadorian city, located in the Southern Andean region of the country, constitutes one of the best examples of the plausible influence that Indigenous languages might have had on the intonation of the Spanish dialects found in and around Ecuador. According to Encalada (2016), the historical interaction between Spanish and local Indigenous languages and cultures that took place in the area of *Tomebamba city*[1] originated what most people in Ecuador refer to as *el Cantado Cuencano* 'Cuencano singing'. This distinctive characteristic of the intonation of Cuencano Spanish that defines the Cuencano accent has been described in an impressionistic fashion by Encalada (2016), who argues about its Indigenous origins tracing them back to the colonial period. He also provides valuable insight about the phonology of the dialect spoken in Cuenca, as well as interesting examples of typical sayings and words borrowed from the Quichua[2] language.

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[1] *Tomebamba* was the name of the city occupied by the *Cañari* culture during the precolonial period and the place where the modern-day city of Cuenca was founded.

[2] An important distinction to be made is that of Quichua /kichwa/ vs. Quechua. Whereas the former refers to the variety of the Inca Indigenous language spoken in Ecuador, the latter is the name given to the original Peruvian Indigenous dialect.

Although the intonation of other varieties of Ecuadorian Spanish, such as Quiteño Spanish (O'Rourke, 2010) and Chota[3] Spanish (Lipski, 2014), has been studied and documented to a certain extent, there are currently no scientific studies that contribute to the analysis of the intonation of Cuencano Spanish. Therefore, this thesis provides the first acoustic analysis of the intonation patterns found in this dialect using the Praat software (Boersma & Weenink, 2013) and the Tones and Break Indices labelling system (ToBI) (Silverman et al., 1992) in its Spanish version (Beckman et al., 2002).

The main objective of this thesis is to analyze and document the intonation patterns of Cuencano Spanish using acoustic methods and the ToBI system. As a secondary objective, this research will provide empirical evidence to support or refute the impressionistic claims about the characteristics and origins of the *Cantado Cuencano*. In addition, this study also gives a preliminary description of the intonational grammar[4] of Cuencano Spanish with an analysis of the most common intonation patterns found across 11 utterance types. It also adds to or call into question previous research on Ecuadorian Andean Spanish intonation. Lastly, it offers complementary comparative material for future research on Ecuadorian Spanish varieties and Ecuadorian languages in general.

In order to achieve the objectives specified above, the following research questions have been posed:

- What are the most salient intonation patterns found across a sample of 11 types of utterances in Ecuadorian Cuencano Spanish?
- What plausible conclusions can be drawn from the analysis of Cuencano Spanish intonation in regard to the origins of its particular accent?

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[3] The word Chota is a Quichua word and the name of a valley located in the northern Ecuadorian highlands in the province of Pichincha, which is predominantly inhabited by Afro-Ecuadorian people. The Spanish spoken in this area is known as "Chota Spanish."

[4] The distinctive final intonation patterns found in different types of utterances. For example, rising patterns (HH%) for yes/no questions and falling patterns (L%) for statements.

Three hypotheses have been formulated before drawing conclusions based on the results of the analysis:

- The most characteristic intonation patterns of Cuencano Spanish are mainly fluctuating and/or emphatic patterns that provide the dialect with a unique singing quality.
- The *Cantado Cuencano* or sing-song quality of the Cuencano accent originates from the particular combination of expressive, fluctuating tones and the frequency with which they appear within the speakers' utterances.
- Because of its particular combination of tones and expressivity, the Cuencano accent has no parallel among other Ecuadorian Spanish accents, which are perceived as to be less melodic to the ear.

Following this brief introduction, a general description of Ecuador, the Spanish language and how it was spread through colonialism, and a description of the most common Ecuadorian varieties will be provided as a background for the reader. This information is important to develop a thorough understanding of the rich history and culture that shaped the dialect analyzed in this thesis. Furthermore, the influence that Indigenous culture and languages had on Ecuadorian Spanish, particularly on the Cuencano variety, will also be mentioned throughout the subsequent sections. It cannot be neglected because this has also contributed to the formation of Cuencano Spanish and it is argued to have shaped its particular intonation.

2. LITERATURE REVIEW

2.1 Ecuador

Ecuador is a multicultural country located in the northwest region of South America, famous for including the worldly renowned archipelago of the Galapagos as part of its territory. It is bordered by Colombia to the north, Peru to the south and east, and the Pacific Ocean to the west. Mainland Ecuador has an extension of 256,370 square kilometers. The whole country, however, includes four main geographical regions: *Costa* (Coastal region), *Sierra* (Highland region), *Oriente* (Eastern region), and *Galápagos* (Insular region). Spanish is the official language of Ecuador, although there are both bilingual and monolingual communities that still retain their Indigenous languages; this is particularly common in the Andean and Amazon areas of the country. The current Ecuadorian population (2019) amounts to an estimated 17,130,396 inhabitants. Prior to 2000, Ecuador had its own monetary unit, known as *El Sucre* but due to a collapse of the banking system that took place in the late 90's and a subsequent national economic crisis the government decided to adopt the U.S. dollar as its new currency.

The country of Ecuador comprises a total of 21 provinces and the largest economic center is the capital city of *San Francisco de Quito* (commonly known as Quito). Quito is the biggest city in Ecuador, and located in the northern Andean region of the country. While most people in other countries might not know much about Ecuador, the Ecuadorian capital is widely recognized as *la mitad del mundo* 'center of the earth' as the equator passes just north of the city. Figure 2.1 illustrates the country of Ecuador, its location, provinces, and borders.

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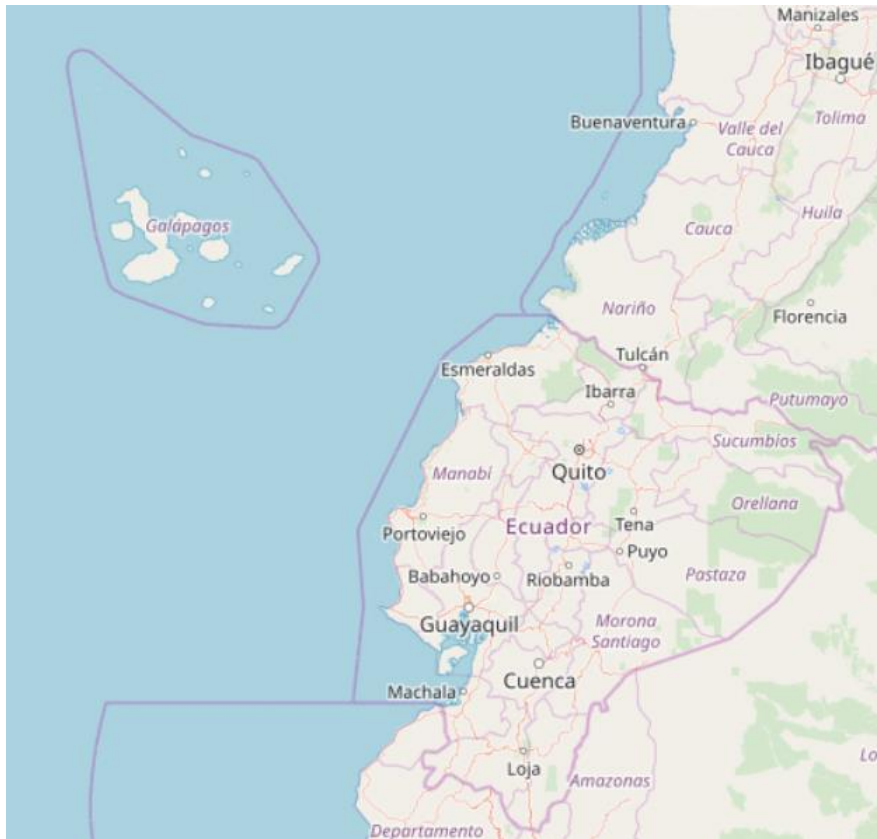
Figure 2.1: Current Ecuadorian map displaying the country's location, provinces, and borders. This map is freely licensed under the Open Data Commons Open Database License (ODbL) by the OpenStreetMap Foundation (OSMF). The globe is freely licensed under Creative Commons BY-SA 3.0.

Apart from Quito, the other two largest economic centers include Guayaquil and Cuenca. Guayaquil is the second largest city in Ecuador and one of the hottest and most humid places on the coast. Cuenca, has been traditionally referred to as the 'Athens of Ecuador', due to the importance given to culture and arts in this city. It has also been the home of many famous Ecuadorian poets, painters, writers, and intellectuals in general. Regarding its shape and geography, Cuenca can be described as a valley surrounded by mountains and traversed by four rivers, which is the reason behind the full name of the city, *Santa Ana de los Cuatro Rios de Cuenca*. Cuenca's features, including its Spanish Baroque architecture, along with its relative safety attract the attention of Northern American immigrants who already have their own communities in the city.

Furthermore, Ecuador appears as one of the most diverse countries in South America with a huge variety of animal and plant species such as birds, insects, vegetables, and flowers. Nonetheless, part of this diversity is also found in its population, who is both multiracial and multicultural. The majority of Ecuadorians are *Mestizos*, a mixed race resulting mainly from the intermarriages between Spanish conquistadors and native inhabitants belonging to the different cultures from the region, including the *Incas*, *Tolitas*, *Cañaris*, *Cayapas*, etc. Some of the minority groups that have made up Ecuador's population over the last 500 years include, Indigenous peoples, Afro-Ecuadorians, *Mulatos*[5], *Zambos*[6], and *Crillos*[7].

2.2 Spanish language

From a historical perspective, as occurs with all the other Romance languages, the origins of Spanish can be traced back to Latin. However, it is difficult to pinpoint a specific date in time for the emergence of the language as "any precise date or event is arbitrary" (Pountain, 2002, p. 5). It must be acknowledged that the word Latin is a very broad term in itself that is often interpreted as referring to the cultured literary norm of this language. Pountain, nonetheless, explains that the correspondence between Classical Latin and some Romance forms cannot always be determined with clarity, given the evidence that proves that *sermo vulgaris*, a variety of Latin substantially different from the one used in its literature, was present in the writings of figures of the stature of Plautus and Cicero. According to this claim, Classical Latin (i.e., the language used in literature) is not exactly the source of Romance languages. Hence, the ancestor language of Spanish and other related languages may be more accurately described as "spoken Latin."

Therefore, Pountain argues that Latin can be classified into a group of varieties, among which we basically have: other varieties of Latin, Classical Latin, and spoken varieties (Pountain, 2002). The latter were particularly influenced by Christian Latin, which stems from the Classical ramification. As a result, the spoken romance varieties were brought into existence, one of them

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[5] The term *Mulato(s)* refers to the people of the intermarriages between white and black progenitors.

[6] *Zambo* is a Quichua term designating individuals whose parents are one Afro-Ecuadorian and the other Indigenous.

[7] People of Colonial Spanish origin born in Ecuador.

being Castilian or *Castellano*, from which Spanish is derived. At this point, it is important to mention that there are two terms commonly used to refer to Spanish: *español* and *castellano*. Although *castellano* was traditionally used to designate a more stylish and higher in register usage of Spanish, that distinction has gradually eroded to the point where both terms are usually regarded as synonyms nowadays. Figure 2.2 illustrates roughly the link between Latin and Spoken Castilian that leads to Spanish:
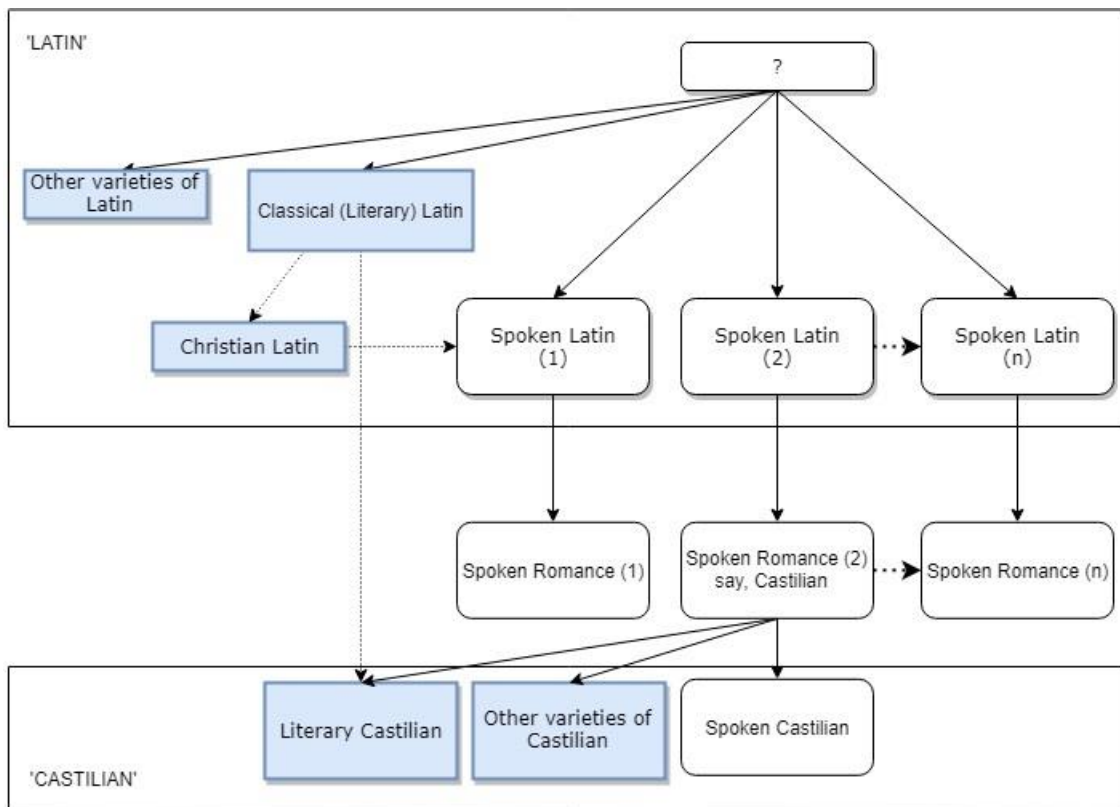
Figure 2.2: The transition from Latin to Castilian based on Pountain (2002).

The transition from Latin into Spanish did not happen overnight; it took centuries for the Romance variants to slowly disassociate from Latin and develop into Castilian to subsequently end in what is currently known as Spanish. Some of the early Romance texts that suggest the beginning of a written transformation from Romance into Castilian are the Valpuesta documents (9th century), the San Millan glosses (11th century), and the *Auto de los Reyes Mago*s (12th century) (Poulter, 1990; Pountain, 2002; Valle, 2013). The language in these texts, however, exhibits a high resemblance with the parent (Latin) language, being, therefore, difficult to understand for the

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average Spanish speaker. Conversely, *El Cantar del Mio Cid* 'The poem of El Cid' and 'Don Quixote' feature as two of the most relevant old texts written in Spanish that are somewhat intelligible for the modern Spanish Speaker.

As an important historical detail, it should be mentioned that in 711 CE, an African army of Muslim soldiers commanded by Tariq ibn Ziyad invaded and took control of the internally conflicted Iberian Peninsula, formerly dominated by the Visigoths who spoke the Romance forms that led to Castilian (Burckhardt, 1972; Cachia, 2017). In the 9th century, while the Moors ruled, Medieval Castilian was in formation in Burgos Old Castile, North Central Spain.

The conquest of the Iberian Peninsula resulted in the appearance of some Mozarabic dialects of Romance. Nonetheless, the locals regained power as a result of the "reconquest of Spain" successfully achieved in 1492, which brought the northern Romance dialects back to everyday use (Pountain, 2002). The Moorish occupation of Spain, however, left numerous words of Arabic origin in the Spanish language (e.g., *almohada* /al.mo.ˈa.da/ 'pillow').

After the reconquest of the country, Castilian spread to New Castilia, Madrid, and Toledo. Later in the 15th century, the kingdoms of Castilia, Leon, and Aragon merged into one and Castilian became the official language of Spain. Consequently, regional dialects such as those of Aragon, Leon, Navarra, Asturias, and Santander were marginalized to isolated rural areas where they exist nowadays. Galician and Catalan also decreased in use but experienced a revival in the early 20th century (Sala & Posner, 2019). Hence, it can be stated that the Mozarabic language forms did not have a substantial influence in the history of Spanish, except for the fact that there can be found some Arabic loanwords upon close examination of Castilian and modern Spanish.

According to Ethnologue, in 2019, Spanish ranks as the second most spoken language in the world by number of L1 speakers with 460 million native speakers (Eberhard, Simons, & Fennig, 2019). Most of the native Spanish speaking population lives in the American continent, where the language was initially spread by the conquistadors and Jesuit monks all over the regions of South and Central America, and Mexico (Lipski, 1994). There are also native Spanish speakers original from the Caribbean, and some parts of Asia and Africa, such as Morocco. In more recent times,

the immigration of people whose mother tongue is Spanish into the United States has caused this nation to become the second largest Spanish speaking country in the world with more than 40 million native speakers plus 11.6 million bilingual Spanish speakers (Burgen, 2015). A rich variety of Spanish dialects and accents exists characterized by its linguistic diversity in proverbs, sayings, slangs, aphorisms, and bywords depending on the region where the language is spoken, which can result in confusion for non-native Spanish speakers (and sometimes for the native ones) when they hear or use a word or expression that is foreign to the Spanish dialect they acquired.

2.3 Ecuadorian Spanish

2.3.1 Colonialism and Spanish in Ecuador

Spanish was brought to Ecuador in 1531, when the conquistadors under the leadership of Francisco Pizarro and Diego de Almagro arrived in the Inca Empire. At that time, the Incas ruled the Ecuadorian mainland, but would soon and unexpectedly be overthrown.

A decisive event for the imposition of Spanish rule on the Ecuadorian land was the conquest of the main Inca settlement located in Quito, and the subsequent foundation of the city of *San Francisco de Quito* on its site in 1534. This city immediately became a part of the Viceroyalty of Peru, under the jurisdiction of the Spanish Crown. In consequence, some of the most emblematic elements of the Spanish culture including the language, Catholic religion, and customs proper of the Spaniards were imposed on the oppressed Indigenous population, who were also enslaved and forced to work in mines. Indigenous women were raped by their Spanish patrons giving birth to the first Mestizos who would be considered as being situated in the middle of the social hierarchy at the time, and would later become the majority of the Ecuadorian population. These racial blending and interactions brought about changes in the Spanish dialect spoken in the region, as the first Mestizos were bilingual and closer to the Indigenous populations than the Spaniards and Criollos living in the area (Adelaar, 2004).

Afro-Ecuadorians, on the other hand, have a different history that contrasts with that of the Indigenous people and Mestizos. A popular account explains that the first Africans to arrive in

Ecuador did so by accident, as a result of a slave boat shipwreck that took place near the Ecuadorian coast, specifically Esmeraldas, in1553 (Estupiñán, 1996; Estupiñan Tello, 1996). The rest of Africans that set foot on Ecuadorian land were brought to the country as slaves by the Jesuits, who needed them to work in the highland mines, as there was a scarcity of Indigenous local slaves, since many of them had died of exhaustion. Africans were also employed to work in sugar plantations and agriculture in the lands owned by the Jesuits in both the coast and the highlands (Lipski, 1994).

Most of the current black population in Ecuador descends from these African slaves and resides in Esmeraldas and El Valle del Chota, which is interesting because while Esmeraldas is on the northern coast of Ecuador, El Chota belongs to the highlands near Quito. A common explanation for this regional separation of the Afro-Ecuadorian population in Ecuador states that during the times of the battles for colonial emancipation, many black soldiers were introduced to the country from Colombia, which borders with Esmeraldas; hence, when black slavery was to become abolished, most of the freed and runaway slaves chose to remain in Esmeraldas; however, there were other blacks that migrated to *El Valle del Chota*, as they were taken and kept there by their Jesuit masters (Lipski, 1987). As a result of this separation between the initial contingents of African slaves in Ecuador, a new variety of Spanish emerged, which is known as Chota Spanish and is diametrically different from the dialect spoken in Esmeraldas, since it has a remarkable Andean influence. Interestingly enough, the issue of slavery prompted the emergence of some dialectal innovations in both Spanish lexicon and phonetics, slang words, and pronunciations originating from the African languages, culture, and situational aspects of the Afro-Ecuadorian population in Esmeraldas.

As for the languages spoken during the colonial period, it is important to mention that in the beginning the Spaniards used Quichua as a lingua franca, in other words, as a tool to communicate with the natives and evangelize them. However, Spanish was also intentionally spread in Ecuador by the Jesuit missionaries who taught it to the Indigenous populations in order to "civilize" and educate them. In 1770, the Spanish Crown declared Spanish as the official language of the conquered territories including Ecuador (Vargas, 2005). However, the total consolidation of Spanish as the first language in the country came about with the interaction and

intermarriages between Spaniards and natives (*mestizaje*). As a result, the Indigenous languages spoken in the area had a direct influence on the prosody, vocabulary, and syntax of the dominant, official language (Palacios Alcaine, 2005).

2.3.2 Ecuadorian Spanish and Quichua

Because of the richness of its dialects, Ecuadorian Spanish has been extensively studied since the 1950s. Linguists have focused their efforts on analyzing and documenting the most distinctive features of regional Ecuadorian varieties. One of the first, most complete linguistic works about Ecuadorian Spanish dialects and culture is *El Español en el Ecuador* by Mateus (1953). This book provides an account of the linguistic properties of Ecuadorian Spanish varieties as well as interesting insights into the origins and innovations of their different dialects.

There is no doubt that Mateus (1953) inspired works such as (Lipski, 1987, 1994; O'Rourke, 2010; Vásquez, 2007) among other more specific studies on Ecuadorian Spanish grouped by regions. It is worthy of note, however, that not only dialects of Ecuadorian Spanish have been analyzed and documented, but also Indigenous and mixed languages, such as Quichua, e.g., (Cole, 1985; Gómez-Rendón, 2007; Guion, 2003; Guion, Flege, & Loftin, 2000; Haboud, 2004; Hurley, 1995) , Media Lengua[8] (Muysken, Pieter, 1997; Stewart, 2011, 2014, 2015), Siona (Bruil, 2014), and Shiwiar (Kohlberger, 2018) are a source of interest among modern linguistic researchers and scholars who research their phonology, prosody, syntax, and semantics.

2.3.3 Dialectal differences between the coastal and Andean regions

2.3.3.1 General characteristics of coastal and highland accents

The most apparent geographical dialectal division of Ecuador is that of the coast vs. the highlands or Andean region. This is so due to the differences that can be observed upon studying the phonology and lexicon of the dialects pertinent to these areas. Coastal Spanish, *Chocoano*, is

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[8] Mixed language resulting from the mixture between Quichua and Spanish.

similar to Caribbean and other coastal varieties in other countries[9], whereas highland Spanish in Ecuador is similar to Mexican and Peruvian highland varieties (Olsen, 2015). One of the most noticeable dialectal features in the Ecuadorian coast, for instance, has to do with rhoticity. Speakers tend to pronounce a trill /r/ in word initial and mid positions (1) (2), as well as to elide word final /ɾ/ or alveolar tap, see (3), while highland Spanish speakers tend to produce an approximant trill (i.e., /ɻ/) or even a voiced retroflex (i.e., /ʐ/) (Stewart, accepted).

In the coastal dialect, intervocalic /d/ is frequently dropped, particularly in vernacular speech from people of lower social class and or status as in (4). Debuccalization and omission of the /s/ in middle and word final positions are also distinctive traits found in Ecuadorian Spanish coastal dialects, especially in informal contexts, (5), (6), (7), (8). These processes are examples of lenition[10] and elision[11] respectively, which is commonly found in Spanish dialects around the world. In addition, the nasal phoneme /n/ is velarized and realized as /ŋ/ in both word and phrase final positions, typically before a vowel (9) (Olsen, 2015).

(1) *razón* /rason/ - [ra.son] 'reason'

(2) *perro* /pero/ - [pe.ro] 'dog'

(3) *casar* /kasaɾ/ - [ka.sa] 'get married'

(4) *tapado*[12] /tapado/ - [ta.p ao̯] 'tapado'

(5) *Mosco* /moko/ - [moh.ko] 'fly'

(6) *Pescado* /pekao/ - [peh.kao] 'fish'

(7) *vamos a las Palmas.*[13] /bamosalaspalmas/ - [va.moh.a.lah.palmah] 'let's go to las Palmas.'

(8) *vamos a las Palmas.* /bamosalaspalmas/ - [va.mo.a.la.palma] 'let's go to las Palmas.'

(9) *van a jugar.* /banajugar/ - [vaŋ .a.ju.gaɾ] 'they're going to play.'

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[9] Some authors, such as (Lipski, 1994), describe Ecuadorian coastal Spanish as a transition between Caribbean and Costal Peruvian Spanish.

[10] Lenition occurs when a stop becomes a fricative.

[11] Elision is the omission of certain phonemes.

[12] Ecuadorian seafood, part of the typical cuisine culture of the city of Esmeraldas.

[13] Popular beach located near downtown Esmeraldas.

As described by Olsen (2015), other phonetic characteristics of coastal Ecuadorian Spanish varieties are as follows:

- Intervocalic /ʝ/ is very weak and speakers often do not pronounce it in contact with high front vowels, e.g., *allí* /ai/ 'there'.

- The palatal lateral /ʎ/ does not exist in coastal Spanish, hence *calló* 'shut up' and *cayó* 'fell' are both pronounced [ka.ˈjo]. This phenomenon is also known as *yeismo*[14].

- The last phonological characteristic of the coastal dialect is that, among illiterate speakers, [f] and [ɸ] are in free variation: *Falta*: /falta/ [ɸal.t̪a] 'lack' (Olsen, 2015, p78).

Same as with coastal accents, the key characteristics of what is deemed a stereotypical highland accent or *acento serrano* are mainly related to the pronunciation of the different allophones of certain sounds. Hence, the allophones of [r]: /r/ and /ɾ/ have two different realizations. The /r / or r trill is pronounced as the postalveolar fricative [ʐ], while the alveolar tap /ɾ/ at the end of words such as *casar* [ka.ˈsaɾ] 'to marry' is maintained, and the consonant cluster <tr> is realized as a phoneme similar to [tɻ̊]. Contrary to what occurs in the coastal dialects, in the stereotypical highland dialect, there exists a distinction between the consonants <y> and <ll>; for example, *cayó* and *calló* are pronounced as [ka.ˈjo] and [ka.ˈʎo].

Velarization of /n/ at the end of words producing the phoneme [ŋ] is, nonetheless, another common feature shared with Ecuadorian coastal Spanish.

2.3.3.2 Quiteño Spanish

The variety of Spanish spoken in Quito (henceforth Quiteño Spanish) constitutes the most standardized of all Ecuadorian dialects. This dialect is heavily influenced by Quichua, from which it has borrowed a considerable number of words and expressions frequently used by speakers of all social strata. Quiteño Spanish exhibits phonetic, morphosyntactic, and lexical features originating from Quichua (Palacios Alcaine, 2005). As an example, we have words such as

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[14] *Yeismo* (palatalization) is a linguistic feature present in a wide variety of Spanish dialects. It occurs when speakers pronounce the <ll> the same as the <y>.

guambra 'boy/girl', *achachay* (interjection expressing that the person feels intense cold), *chulla*[15] (a stereotypical man from Quito), and *astaray* (interjection used to express a burning sensation, e.g, after touching a hot burner). Not only is Quiteño Spanish identified by its Quichua loanwords, but it is also recognized by its high frequency use of diminutives. In Quiteño Spanish as well as in other varieties of highland Ecuadorian Spanish, the diminutive is often employed to express affection with persuasive purposes.

(10) *Venga mi reinita, pruebese el vestido, lindo le ha de quedar.*
'Come my little queen, try on this dress; it will look good on you'.

Regarding phonology, the particular features of the pronunciation of Quiteño Spanish are mostly those typical of the central highland region usually recognized as stereotypical 'serrano accent', as it was described in 2.3.3.1 above. According to Lipski (1994), the following phonemic generalizations can be made about Quiteño Spanish:

- Unstressed vowels are reduced, especially in contact with /s/ and mainly affects /e/ and /o/, e.g., osos /osəs/ 'bears'.
- Nasal velarization and elision word-finally, e.g., *comen* /komen/-[ko.meŋ]-/kome/ 'they eat'.
- Rhotics are assibilated word-initially, medially, and word-finally, producing a sound similar to [ẓ], e.g., *perro* [ˈpe.ẓo] 'dog'.
- The consonant cluster <tr> is pronounced as an alveolar affricate similar to /tʃ/, e.g., *trae* /tʃae/ 'bring'.
- /ʎ/ is maintained as a phoneme pronounced as a palate-alveolar fricative [ʒ] (in contrast with /j/) (e.g., *valle* /ˈba.ʒe/) 'valley'.
- The labiodental fricative /f/ is often realized as [hʷ] among Quichua-Spanish bilinguals. (e.g., *fueron* [ˈhʷue.ɾon]) 'they went/were'.

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[15] Originally *chulla* referred to a specific type of man characterized for being bohemian, pseudo-intellectual, and charismatic.

Quiteño Spanish is also distinguishable because of its particular intonation. In Ecuador, it is common to hear people say that Quiteños speak as if they were "crying" (Mateus, 1953). According to Mateus (1953), this *tono lloron* 'crying intonation' commonly found in informal speech from people of low social class (e.g., working class), is the result of influence from Quichua on the intonation of the Spanish spoken by both monolingual and bilingual speakers (Mateus, 1953). Mateus (1953) states that the rhythm of Quiteño Spanish is slow in comparison with that of the coastal varieties found in Ecuador. In addition, there is stress displacement in some words stressed in the penultimate syllable that results in them being accented on the antepenultimate syllable instead, e.g., *interválo* /in.teɾ.ˈba.lo/-/ in.ˈteɾ.ba.lo/ 'interval'.

2.4 Cuencano Spanish

The Spanish dialect from Cuenca-Ecuador is the object of analysis in this thesis, specifically its intonation. To better understand the way in which Cuencanos speak or the intonation behind their speech, it is imperative to learn about the origins of their dialect. The first group of Spanish colonizers to arrive in what is now the city of Cuenca did so in September of 1557, under the command of don Gil Ramirez Davalos. The Viceroy of Peru had ordered Davalos to set up a Spanish settlement on the *Inca-Cañari* city of *Tomebamba* and officially found the city of Cuenca. The royal authorities chose this particular area because there was a group of Spanish settlers already living there, and the weather conditions and hospitality of the natives were favorable (Vásquez, 2007). Figure 2.3 highlights the area occupied by the *Cañaris* prior to the Inca and Spanish conquests.
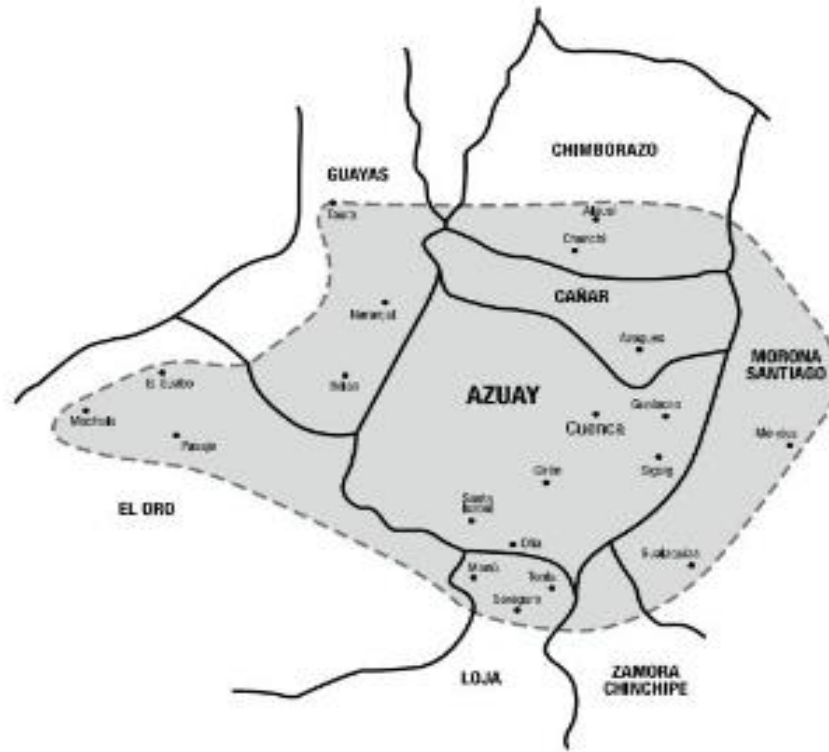
Figure 2.3: Map that highlights the preconquest Cañari territory based on Encalada (2018).

Therefore, it is thought that the variety of Spanish spoken in Cuenca developed over time as a result of contact between the Spanish dialect brought by the colonizers and the Cañari language spoken by the people indigenous to the area (Encalada, 2016). As argued by Encalada (2016), even though Quichua was imposed by the Incas when they invaded the Cañaris, the Spanish conquest caused the Indigenous tribes under the Inca empire domination to resume their previous autochthonous practices and to continue using their own language. Consequently, both Spanish and Quichua were in use in the area but with variations mainly in the intonation, due to the influence of the Cañari substrate language, which was still strong at the time (1500s).

Unfortunately, little is known about the Cañari language, except for impressionistic observations based on historical accounts and the strong presence of the Cañari culture in the area. The Canari language disappeared because of the pressure exerted by the two dominant languages, Spanish and Quichua, which became stronger after the colonization and control of the Ecuadorian

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mainland (Encalada, 2016). From this evidence, it is possible to assert that while the dialect spoken in Cuenca has many Quichua loanwords in common with other Ecuadorian highland dialects, such as Quiteño Spanish, its intonation differs greatly from these other Ecuadorian Spanish variations, which may be due to historical influence from the Cañari substrate language.

2.4.1 Basic phonology of Cuencano Spanish

In regard to pronunciation, the Spanish from Cuenca is similar to that of the central highlands, particularly Quito Spanish, already described in section 2.3.3.2. Nonetheless, Lipski (2016) makes the following phonemic distinctions about Cuencano Spanish:

- Unstressed vowel reduction is much more noticeable[16], e.g., ¡Ques pes! /kespəs/-/kesps/ 'What's this?!'
- Fricative pronunciation of <r> (assibilation) and affricate pronunciation of <tr> are more noticeable, carro [ka.ʐo] 'car', trigo [tr̥igo] 'wheat'.
- <y> remains as [ʎ] *calle* /ˈka.ʎe/ 'street'.

2.4.2 General description of Cuencano Spanish intonation

The intonation of the Cuencano dialect is colloquially known as *Cantadito Cuencano* 'Cuencano singing'. Therefore, it is, according to most people in Ecuador, fairly easy to recognize Cuencanos once they open their mouths and start talking with their characteristic accent that sounds as if they were singing (*Telecuenca Tv*, 2015). One of the most distinctively obvious intonational traits of the Cuencano dialect is the tendency to displace the accent to one of the previous syllables, specifically the pretonic syllable, regardless of the stress classification of words

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[16] Unlike English dialects, Spanish dialects do not present unstressed vowel reduction as a common feature of their pronunciation—as Spanish vowels are fully pronounced even if not stressed. Cuencano Spanish pronunciation adheres to this practice, and while there are some phrases and words in which unstressed vowels are exceptionally reduced in colloquial, informal speech, this occurrence does not reflect the regular pronunciation of words within utterances. Hence, it cannot be considered as a determining factor in the appearance of the singing found in this dialect. More noticeable vowel reduction (when it occurs in comparison with other Ecuadorian dialects) must not be confused with default weak pronunciation of unstressed vowels in Spanish.

in Spanish (Mateus, 1953). Although this trait can also be found in Quiteno Spanish, it predominates in Cuencano Spanish.

This feature has been impressionistically described as *esdrujulización*[17], more technically 'accent retrocession', and is one of the main traits that distinguishes the Cuencano accent from that of other Ecuadorian dialects (Candau, 1970; Cuesta, 1983; Icaza, 2007; Mateus, 1953). Examples of this are monosyllabic words such as *si* /ˈsi/ 'yes' or Luis /luˈʔis/ 'Louis' being pronounced with an extra syllable to try to make them sound as *esdrujulas* (antepenultimate stress) si-i /ˈsi.ʔi/, Lu-is /ˈlu.is/; contrary to what is common in northern Andean cities, such as Quito, some two-syllable words such as the interjection *¡Hele!* /el.ˈe/ 'huh!' maintain their penultimate stress and are pronounced as *¡Hele!*[18] /ˈe.le/; words like *cafesito* /ka.fe.ˈsi.to/ 'little coffee or diminutive of coffee', on the other hand, are pronounced with a double accent as *cafecito* /ˈka.fe.ˈsi.to/ or *acasito* /a.ka.ˈsi.to/ 'diminutive of here' is pronounced as a word with an antepenultimate stress *acasito* /ˈa.ka.si.to/(Encalada, 2018).

These examples show that there is displacement or accent retrocession produced by means of emphasis through lengthening of vowels and tonal variation. It is not something that is done for emphasis but rather something that Cuencanos do naturally and implies some emphasis they don't even realize sometimes. So, they call it singing. In addition, it has been argued that this accent displacement and emphasis is extensible to the intonation phrase (IP) domain, where certain syllables found in words that oftentimes would not normally be stressed are sometimes emphasized giving the pitch contour a more defined sinusoidal shape (Encalada, 1998).

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[17] *Esdrujulización* is the tendency to try to make any word sound as if it was an *esdrujula* (antepenultimate stress or a word stress on the third to last syllable) or a word that bears the accent on the antepenultimate syllable. It has also been referred to as accent retrocession.

[18] Although this *¡Hele!* might arguably be a case of strict adherence to the Spanish language norms (since *¡Hele!* comes from the verb *haber*), it is an example of *esdrujulizacion* or accent retrocession because the accent hasn't been displaced to the last syllable in comparison to the Quiteño Spanish pronunciation. the opposite is true for words such as *todavía* /to.da.ˈvia/ 'yet' accented in the last syllable, the stress displacement or *esdrujulización* is more noticeable when it is pronounced as *todavia* /ˈto.da.via/.

Encalada (2016) has referred to this occurrence by stating that the sing-song characteristic is not exclusive to the Spanish from Cuenca, since a variety of dialects in the world present this singing quality to some degree because of the existence of a melodic line coupled with the articulation of the phonemes. However, he also argues that due to the aforementioned influences in the formation of Cuenca Spanish, the sing-song or *cantado* is strikingly obvious in this dialect, making it one of the most easily distinguishable dialects in Ecuador.

In this argument lies the reason as to why Cuenca Spanish began to be referred as *el Cantado Cuencano,* 'Cuencano singing' by people from other parts of the country. As previously stated, the objective of this thesis is to analyze and document the intonation of this dialect, which has not been done in the past beyond impressionistic observations such as the ones previously noted in this section.

2.5 Acoustic analysis

Acoustic analysis can be defined as the phonetic analysis of prosody and sounds present in recorded speech samples. It is a necessary skill for phoneticians, although it has been proven useful in other branches of linguistics such as phonology, sociolinguistics, and psycholinguistics. "Production studies have been widely used for phonetic and phonological analyses of prosody. There is a long tradition of using acoustic analysis of speech productions under various elicitation conditions in the field or in the laboratory" (Prieto, 2012, p.2).

This type of analysis usually involves the close examination of acoustic representations including waveforms (i.e., the visual representation of a sound or utterance recorded using a microphone), pitch contours, spectrograms, measurements of intensity, spectra, and formants. These elements act as visual clues that help measure acoustic, articulatory, and auditory quantities such as glottal period, resonance frequencies, pitch, duration, intensity, noisiness, and place of articulation (Boersma, 2013).

Acoustic analysis is often done and visualized with Praat (Boersma & Weenink, 2013). Figure 2.4, for instance, contains the waveform clearly distinguishable in black with a white

background. Right underneath the waveform, on the second half of the square, the spectrum or spectrogram is found showing different grayish and black tones. Superimposed on the spectrogram, the pitch or intonational contour can be spotted in blue as well as the formants, which have been highlighted in red.
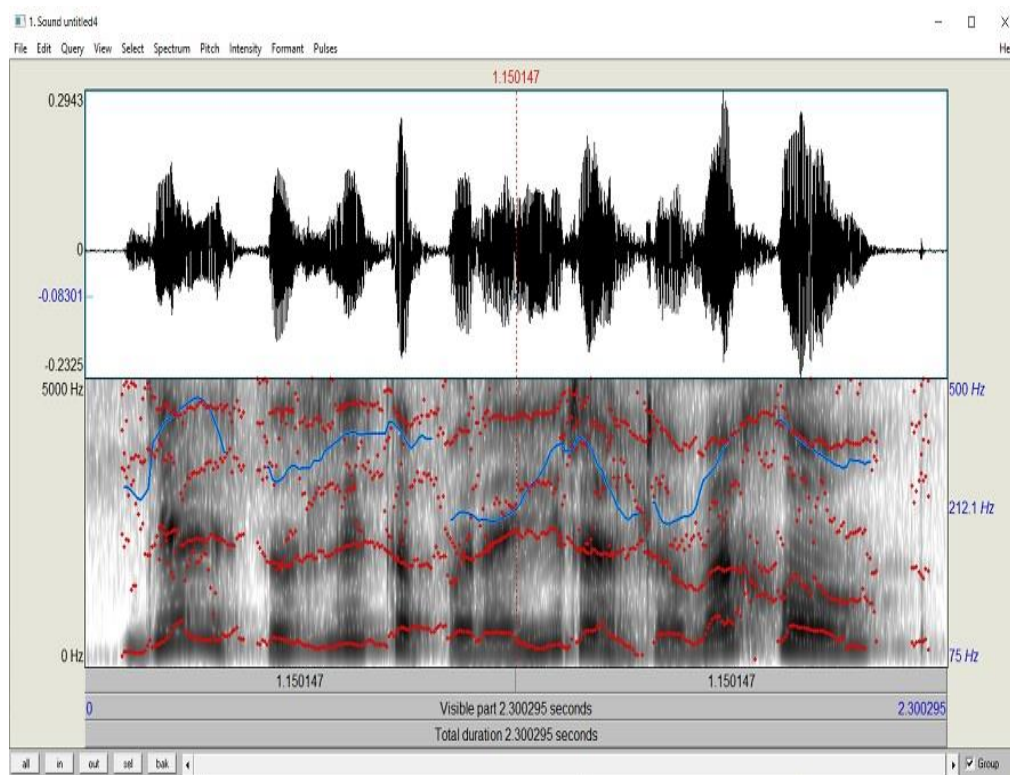
Figure 2.4: Praat window showing the main elements of acoustic analysis: the waveform (top), the spectrogram (bottom), the intonational contour (blue, solid line), and the formants (red dots).

Intonation can be described as the linear pattern of pitch alignment—high, low, or mid positions— characteristic of an utterance that provides audible information about the meaning conveyed by the speaker. A basic example is the utterance, 'You know where the reunion is', which can be taken as either a statement or a question depending on whether it has falling or raising intonation. In other words, as Nolan (2014, p.1) states "The term intonation refers to a means for conveying information in speech which is independent of the words and their sounds. Central to intonation is the modulation of pitch, and intonation is often thought of as the use of pitch over the domain of the utterance."

(11) You know where the reunion is.

(12) You know where the reunion is?

Intonation is an essential tool of spoken communication because it expresses a variety of linguistic and communicative aspects present in speech. Through intonation, the listener can identify the organization of discourse, topic, focus, pauses between utterances, the basic syntax of the language, and the attitude and emotional state of the speaker. It is important to mention, however, that there are other linguistic elements different from pitch that influence the intonation of an utterance, such as voice quality, stress, loudness, and timing. These elements are grouped together and referred to as the prosody of the language; they can also be examined during the acoustic analysis of sample speech productions.

2.5.1 Acoustic analysis of intonation

The acoustic analysis of intonation focuses mainly on the characteristics and description of the fundamental frequency (f0) of a specific speech sample. Linguists examine the f0 contour of different types of speech productions in order to find common intonation patterns that allow them to describe different types of utterances based on their intonation features. They aim to determine the pitch accents and boundary tones (See page 33, footnotes 21 and 22) of the specific language or dialect they want to document.

A great deal of research has been done using acoustic analysis methods applied to Spanish. These studies have their origins in work based on English (see e.g., Pierrehumbert, 1980). A work that describes and distinguishes between British English varieties and provides a regional classification based on acoustic analysis of their intonation can be found in Frarrar, Grabe, & Nolan (1999). On the other hand, Hickey (2004) conducted research on Irish English varieties using an extensive data set of recordings in order to provide an atlas for Irish English sounds. An analysis of Spanish intonation and its main features that includes some acoustic details and graphics in

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order to distinguish it from the intonation features of other languages can be found in Alcoba & Murillo Puyal (1998). Research on the acquisition of L2 Spanish intonation in the context of immersion in Spain is the main topic in Henriksen, Geeslin, & Willis (2010).

Acoustic analysis of intonation, however, transcends the purely linguistic realm into the health sciences field, where it has applications in the detection of voice pathology as described in Panek, Skalski, & Gajda (2014). It also helps determine the processes involved in the use of language of patients with Parkinson's disease, as demonstrated in Hertrich & Ackermann (1993); Mennen, Schaeffler, Watt, & Miller (2008); and Penner (2001).

2.6 Autosegmental metrical frameworks

To understand autosegmental metrical frameworks such as the ToBI system and its application in this thesis, it is important to review the essential principles of the phonological theory behind them. The autosegmental metrical theory (AM theory) is a model for the analysis of intonation and prosody that stems from the autosegmental phonology theory postulated in Goldsmith (1976). The aim of the autosegmental phonology theory was to provide an alternative to the incomplete approach to tone analysis existing at the time (Goldsmith, 1976; Goldsmith, 1990). This author was one of the first to elaborate a parallel structure of tiers containing different features of a given language such as tones, time, stress, text, etc. Figure 2.5 shows the basis for the autosegmental theory developed by Goldsmith starting from the utterance level and finishing with the tonal structure. This theory is characterized by the use of a hierarchical system of parallel tiers containing autosegments[19] rather than a linear phonological representation.

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[19] Autosegments are defined by contrasting them with segments, which follow a linear alignment, such as consonants and vowels. Autosegments are independent from each other and are distributed throughout a hierarchical system of tiers as shown in Figure 2.5; therefore, they are multilinear. This multilinearity helps avoid the clumsiness of linear segmental phonological analysis. Tones are autosegments, as they are independent from the metrical structure but associated with it at the same time.
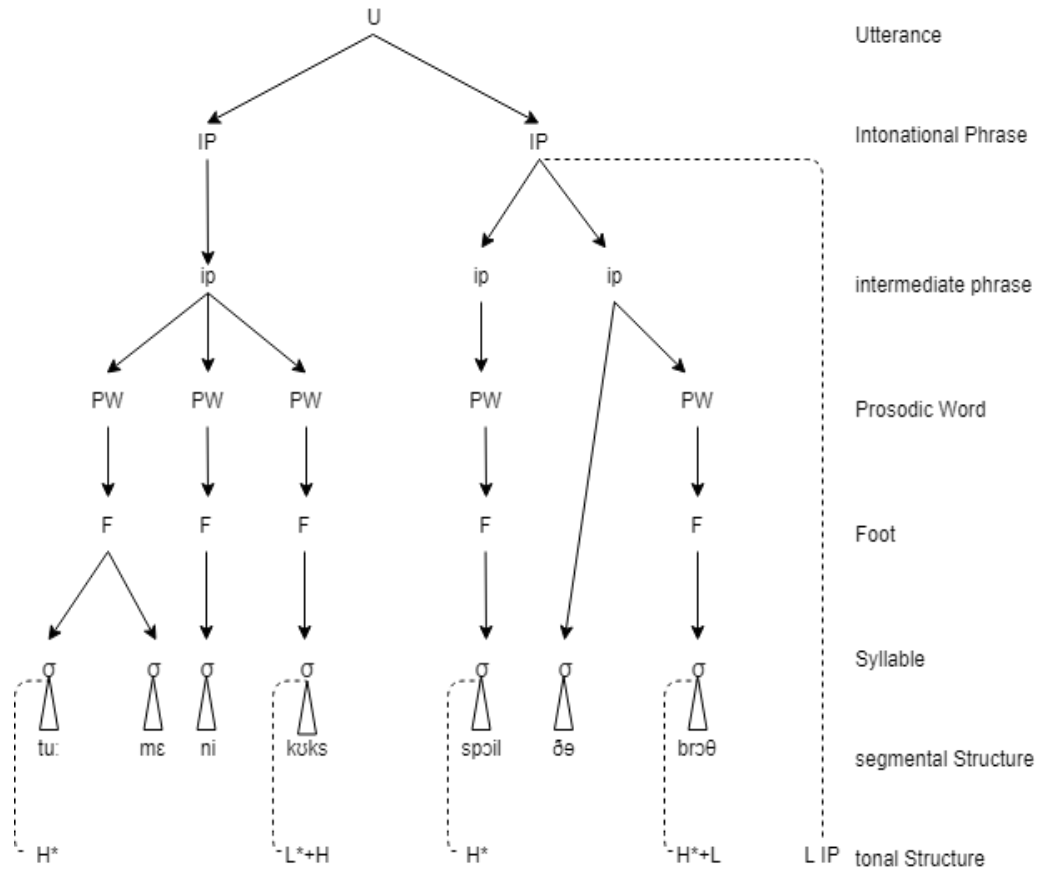
Figure 2.5: Hierarchical, relational distribution of autosegmental elements in their corresponding tiers based on Goldsmith (1976).

Subsequently, the AM scheme continued to develop based on the works of linguists, including Bruce (1977), Pierrehumbert (1980), Beckman, (1996), and Ladd (1996), who coined the term "autosegmental metrical", to describe the usual alignment between tones (suprasegmental[20] autosegments) and segmental metrical units[21] known as tone bearing units (TBUs). These play an important role in tone-text correspondence, despite the fact that they are located in a different tier and do not merge with tones. According to Ladd (1996, p. 42), there are four main tenets to the AM theory:

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[20] Suprasegmental refers to suprasegments or the elements of the speech that are beyond segments or superimposed on them (e.g., stress, intonation, duration).
[21] 'Segmental metrical units' in this context refers to the words or syllables in the text that are accentuated or carry stress and or pitch accents.

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1. Linearity of tonal structure: There is a linear string of tones which consists of both prominent and phonologically unspecified events.

2. Distinction between pitch accent[22] and stress: AM theory draws a distinction between these two elements.

3. Analysis of pitch accents in terms of level tones: Pitch accents and edge tones[23] are analyzed as being composed by primitive level tones, Low (L) and High (H), following Pierrehumbert's notation system.

4. Local sources for global trends: The changes affecting tone scaling factors within utterances are localised and iterated, which creates global trends.

The AM theory treats intonation as a well-defined linear sequence (string) of tones (high and low) including both relevant and unimportant events. The substantial variations in the pitch contour are either pitch accents (pitch targets in terms of direction) or edge tones (phrase and boundary tones), whereas the plain uniform ones are deemed mere transitions. Figure 2.6 depicts an example of important and non important tonal events.
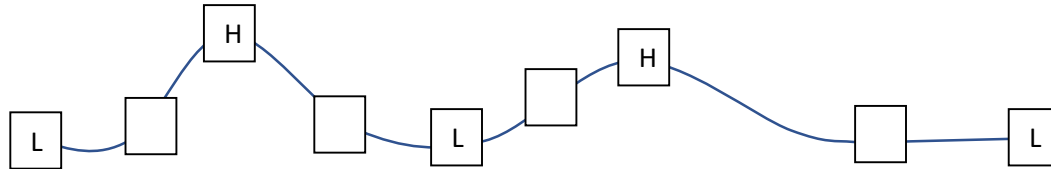
Figure 2.6: Tonal string made up of L and H tones (relevant events) connected through blank squares representing non important tonal transitions, which are not marked.

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[22] Pitch accents indicate pitch movements or relevant events in the f0 contour (intonation line) that may or may not correspond with stressed syllables. They are represented by high and low tones (H*, H+L*). In Spanish, as in English, pitch accents always occur on stressed syllables. Common pitch accent diacritic symbols are *and > (L+H* or L+>H*). While the former means target or direction and identifies the pitch accents, the latter indicates the continuation of the rising movement onto the posttonic syllable.

[23] Edge tones or boundary tones define boundaries or intonational phrases and intermediate phrases. Intonational phrases finish with final boundary tones, which are distinguished by the percentage diacritic that comes after them (HH%, L%), while intermediate phrase boundary tones or phrase tones are indicated by placing a hyphen after the tone (H-, L-).

The main pitch accent that takes place within an utterance is referred to as nuclear accent and is the last pitch accent found in the last position (nuclear position) within the utterance. Conversely, prenuclear pitch accents are those found in any positions within the utterance other than the nuclear position. Figure 2.7 shows two tones in prenuclear and nuclear positions followed by a final boundary tone.

L+H*
(prenuclear)

L+H*
(nuclear)

L%
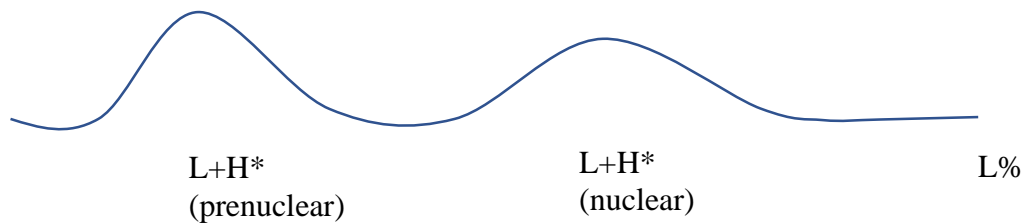
Figure 2.7: Location of prenuclear and nuclear pitch accents in the f0 or intonational contour.

Although pitch targets usually occur on stressed syllables in languages such as English, Spanish, and German; there are some languages like French for which this does not apply (Ladd, 1996). This is the reason the AM theory makes a basic distinction between pitch accents and stress: It refers to the former as being a particular characteristic of intonation, while considering the latter as word-related in correspondence to phonological abstractions (Ladd, 1996).

(13)   L   M H L
     Il met la table, Mercier.

     'Mercier's setting the table'.

Example of the different distribution and correspondence of tones with stress in French according to Ladd (1996, p.57).

It can be said that even though pitch accents are usually an indicator of the prominence of certain words at the utterance level, they do not determine the word's prominence in itself. Therefore, the link between the phonological and phonetic properties of certain words in an utterance in relation to intonation and stress remains unclear.

2.7 ToBI

ToBI (Tones and Break Indices) is a prosodic annotation system that emerged from AM models, particularly from the tone components present within them. It can be regarded as a type of auto segmental-metrical framework used to describe the intonation and prosodic features of a specific language or dialect. ToBI was created by speech scientists from different fields of expertise including linguistics, psychology, electronical engineering, etc., who were looking for a common system for transcribing an adopted set of prosodic elements, as they wanted to share prosodic transcriptions of data bases to achieve various research and technological goals (Beckman, Hirschberg, & Shattuck-Hufnagel, 2004).

Although the ToBI system was originally developed as a set of conventions for transcribing the intonation and prosody of Mainstream American English (MAE), it was later expanded and renamed as English ToBI in order to include other varieties of English (e.g., British RP and Australian varieties). It must be noted, however, that ToBI is not the equivalent of the IPA (International Phonetic Alphabet) for prosody, since intonation and prosodic characteristics vary from language to language as well as from one dialect to another. Furthermore, ToBI transcriptions do not use IPA symbols (e.g., tone bars, accent diacritics, or arrows) to represent prosody.

A basic ToBI transcription consists of a spectrogram showing the recorded utterance sample; a superimposed image of the f0 or fundamental frequency; and three or four additional tiers typically consisting of a tone tier, a break-index tier, an orthographic tier, and a miscellaneous tier.

The tone tier is the most important as it illustrates the changes in the utterance's intonation by means of a sequence of labels from low to high (e.g., L*, H*, L+H*, L-, H-, L%, HH%, etc.) assigned to a given contour. The diacritics next to the labels indicate the target direction of the intonational movement and determine whether the tone functions as a pitch accent (*), phrase accent (-), or final boundary tone (%). The next tier in order of importance is the Break Index tier. This tier represents the prosodic grouping of the words in an utterance by designating numbers to each word according to the perceived strength of its association with the next word. These

groupings of words are referred to as prosodic words[24]. Therefore, ToBI uses a scale from 0 (for the strongest association) to 4 (for the weakest); number/level 0 indicates the integration of two or more orthographic words into one prosodic word; numbers/levels 1 and 2 separate prosodic words, while 3 and 4 are used to mark pauses in the speech that occur at the end of intermediate phrases and intonational phrases respectively[25].

However, level 4 can also be used to designate an utterance made up of two intonational phrases, although this is sometimes used in a superfluous or exaggerated fashion. The orthographic tier is the simplest of the four tiers, as it just contains the words found in the utterance, which are simply used as a reference. This tier is not part of the core prosodic analysis of the utterance; nonetheless, it is still visually helpful because the words in it are aligned to their corresponding boundaries as they appear in the spectrogram. Likewise, the miscellaneous tier is not essential to the prosodic analysis but is still relevant. It acts like a comment tier where non-linguistic occurrences that interrupt the f0 contour or affect the clear production of an utterance, such as a cough or creaky voice, can be registered and later considered when interpreting the tone and break-index tiers.

(14)   Ma   ria   nna   made   the   mar   ma   lade.
            L+H*   L-H%   L*   H*   L-L%

Example 14 and Figure 2.8 show one production of the statement 'Marianna made the marmalade' based on Beckman & Gayle (1994).

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[24] Prosodic words are formed by the perceived association of orthographic words when uttered by speakers. Prosodic words are separated from each other by small pauses indicated by Break Index level 1 and rarely level 2 (for coughs, etc.).

[25] Intermediate phrases occur within the utterance when one or more prosodic words are separated from the rest of the utterance by means of perceived pauses and tonal movements stronger than those separating prosodic words. Intonational phrases, on the other hand, typically occur at the end of the utterance; however, there are cases where a single utterance is divided into two or more intonational phrases because the pauses and the tonal movements between them are stronger than those that usually divide intermediate phrases, hence level 4 is used. Intermediate phrases are always indicated with Break Index level 3, whereas intonational phrases always take Break Index level 4.
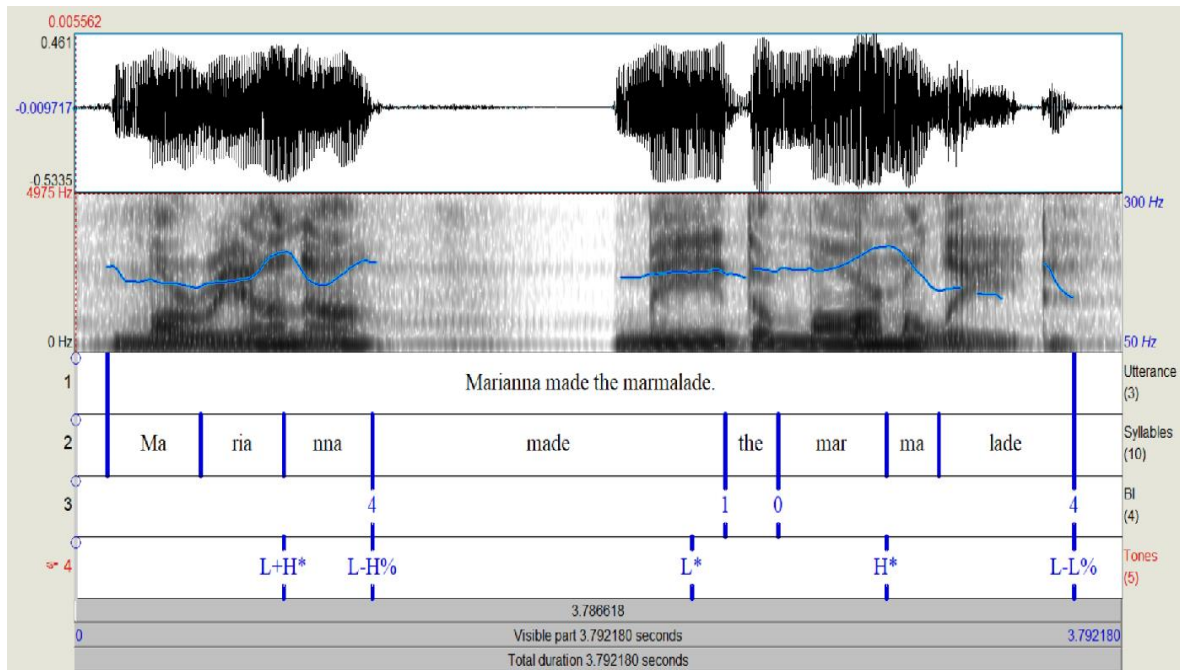
Figure 2.8: ToBI labelling for one production of the statement 'Mariana made the marmalade' based on Beckman and Gayle (1994). Observe how the Mainstream American English version of the system has been applied to label the example, which contains 4 hierarchical tiers from top to bottom (Utterance, Syllables, Break Indices, and Tones). Break Indices levels have been assigned in correspondence to the perceived association between orthographic words within the utterance. Thus, the first prosodic word 'Marianna' has been considered to be substantially separated from the rest of the utterance as shown by the Break Index level 4 right after it, which indicates an independent intonational phrase. The next prosodic word 'made' is closely associated with the last prosodic word 'the marmalade' that closes the utterance; therefore, they are separated by level 1. Level 4 has been assigned at the end of the utterance to signal the IP. With regard to the tones, it can be observed that there are two monotonal pitch accents (L*, H*) in prenuclear and nuclear positions and one bitonal pitch accent[26] (L+H*) in prenuclear position. There are two boundary tones designating intonational phrases (L-H%, L-L%).

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[26] Monotonal, bitonal, and tritonal pitch accents are defined by contrast. Therefore, monotonal PAs have one tone, while bitonal and tritonal PAs are made up of two and three tones respectively.

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2.8 Spanish ToBI

Because of its effectiveness when working with American English prosody, additional ToBI versions were developed for different English dialects and other languages. Currently, there are fully developed, complete ToBI systems for Mainstream American English (Beckman et al., 2004), British (RP) English and other varieties such as Glasgow English (Cruttenden, 2007; Mayo, Aylett, & Ladd, 1997), and Australian English varieties (Fletcher & Harrington, 1996; Fletcher & Harringtonb, 2001; Fletcher & Loakes, 2010; Fletcher, Stirling, Mushin, & Wales, 2002), as well as for standard German (Baumann, Grice, & Benzmüller, 2000), Japanese (Jun, 2005), and Korean dialects (Jun, 1998). Some ToBI standard varieties that have almost been completed include Greek (Arvaniti and Baltazani, 2005), Catalan (Prieto, 2014), and Portuguese ToBI (Frota, Oliveira, Cruz, & Vigário, 2015), while others such as Serbian (Smiljanic, 2013), Spanish (Aguilar, De-la-Mota, & Prieto, 2009; M. Beckman et al., 2002; Elvira-Garcia, Roseano, Fernández-Planas, & Martinez-Celdran, 2016; Gurlekian, Rodríguez, Colantoni, & Torres, 2001), and Mandarin (Peng et al., 2005; Yuan, 2004) have been partially developed (The Ohio State University Department of Linguistics, 1999).

Spanish ToBI (henceforth SP_ToBI) is a labelling system for the prosodic annotation of Spanish spoken corpora used to describe the intonation, phonetics, and prosody of the language. The original Spanish ToBI version was devised by Beckman, Díaz-Campos, McGory, and Morgan (2002). Some modifications to the original system were made over time that extended its scope in an effort to get closer to the original researchers' goal of developing a SP_ToBI that can be used to work with a wider diversity of Spanish dialects (Aguilar et al., 2009). One of the most important complementary modifications to the original Spanish ToBI system developed by Beckman et al. (2002) was the contribution of Prieto and Vilaplana (2008). The work of Prieto and Vilaplana was based on traditional descriptions of Spanish intonation, previous works on SP_ToBI, and a systematic analysis of a corpus of 200 utterances produced by four speakers from the Iberian peninsula (Madrid and Sevilla) and Mexico City. (Vilaplana & Prieto, 2008).

Prieto and Vilaplana (2002) added three innovations to the tonal inventory of the original SP_ToBI. They provided evidence for the existence of a L* pitch accent, three varieties of bitonal

raising tones (L*+H, L+H*, L+>H*), and the presence of bitonal and tritonal boundary tones (Vilaplana & Prieto, 2008). In addition, Prieto (2014) postulated the existence of a tritonal pitch accent L+H*+L in Catalan, which is also spoken in Spain; however, this tritonal pitch accent seems not to be included as such at least in the inventory of the SP_ToBI website.

Unlike English ToBI, which encompasses different versions for different dialects, Spanish ToBI is sort of an exception to this practice in that the objective of the SP_ToBI developers was to create a system that can be applied to as many dialects as possible. Therefore, this version of the system is intended to grow to contain every dialect by means of corpus creation and official pattern inventories.

An example of the application of the SP_ToBI system to Andean Latin American dialects can be found in the work of O'Rourke (2010). Her aim was to determine the basic final intonational patterns common to Ecuadorian Andean Spanish dialects, specifically Quiteño Spanish. To achieve this objective, the author analyzed a total sample of 142 utterances (broad statements, narrow focus statements, bias statements, exclamative statements, yes-no questions, wh- questions, vocatives, requests) produced by two speakers, one female and one male from Quito, Ecuador.

O'Rourke's (2010) conclusions support previous work by (Arguello, 1978) regarding the final intonation patterns of wh-questions and imperative questions, which she found to have M% / HH% and HH% boundary tones respectively. She also refers to the fact that utterance final devoicing was present in her sample as had been previously described in Arguello (1978).

In regard to other varieties of Spanish in comparison with Ecuadorian Andean Spanish, O'Rourke (2010) explains that the main differences are in the final intonation of yes-no questions and wh-questions, which is not as high as indicated in previous descriptions of Ecuadorian Spanish (Arguello, 1978). The author also concludes that the bitonal H+L* boundary tone is frequently used in Ecuadorian Andean Spanish in a considerable number of utterances among which we can find biased questions and echo wh-questions. Lastly, O'Rourke (2010) states that further research in other dialects of Ecuadorian Andean Spanish is needed to determine if intonation patterns are shared between different dialects in this area. This is why this thesis has been written with the

purpose of providing more material about another Ecuadorian Andean Spanish dialect that is suitable for comparison.

Although the SP_ToBI framework is already functional and has been used to work with a variety of dialects, it is still a developing system that can be improved and modified to include more details and cover more Spanish dialects. These modifications will help crystalize the main objective of Spanish ToBI, which is to be used to create a large public corpus of Spanish utterances that can contribute to both future research and the proper understanding of the prosody of the language. This will subsequently lead to the development of new and better speech recognition systems as well as to an improvement in Spanish second language teaching/learning (Beckman et al., 2002).

The Spanish ToBI framework is similar to the other ToBI systems in that it also derives from the original English ToBI. As in the other ToBI varieties, the typical SP_ToBI representation includes an image of the utterance waveform, spectrogram, and f0 contour, and a standard but flexible number of tiers: orthographic, phonetic transcription/syllables, tones, Break Index, and miscellaneous.

3. METHODOLOGY

The data for this research project were collected in the city of Cuenca, Ecuador. The final sample comprises 550 utterances in total. These tokens are classified into 11 types of utterances (yes/no questions, wh-questions, declarative statements, imperatives, conditionals, exclamations, interjections, vocatives, negative statements, lists, and tag-questions). The way in which the tokens were obtained differs from what I had planned at the beginning, as my initial intention was to prompt and elicit the data spontaneously through interviews, role plays, and narrations. However, a more direct approach orientated to elicit specific types of utterances in a semi-spontaneous fashion was adopted in order to answer research questions 1 and 2: What are the most salient intonation patterns found across a sample of 11 types of utterances in Ecuadorian Cuencano Spanish? What plausible conclusions can be drawn from the analysis of Cuencano Spanish intonation in regard to the origins of its particular accent?

The tokens were recorded using the application *Easy voice recorder* on a Samsung 8 (S8) phone with an in-built high-quality microphone recording at 44100 Hz. The format used for the recordings was wav. It should be noted at this point that the quality of the recordings was by no means inferior to that of those obtained with a professional audio recorder in terms suitability for this academic research. The pitch contour was clearly visible and the sound was clear. Table 3.1 below shows the number of utterances produced by the speakers, the number of speakers and their gender, as well as the number of tokens by gender and the modality of the tokens (semi-spontaneous).

Table 3.1: Table of utterances

Utterances	N º of tokens	N º of speakers	Males	Females	Male tokens	Female tokens	Semi Spontaneous
Declaratives	50	10	5	5	25	25	50
Yes/no questions	50	10	5	5	25	25	50
Wh-questions	50	10	5	5	25	25	50
Imperatives	50	10	5	5	25	25	50
Vocatives	50	10	5	5	25	25	50
Exclamatives	50	10	5	5	25	25	50
Interjections	50	10	5	5	25	25	50
Conditionals	50	10	5	5	25	25	50
Tag questions	50	10	5	5	25	25	50
Lists	50	10	5	5	25	25	50
Negative Statements	50	10	5	5	25	25	50
Total	550	10	5	5	275	275	550

3.1 Participants

A total of 10 native Spanish speakers (5 men/ 5 women) participated in this research. All of the participants were between the ages of 20 and 27 and were either working professionals or pursuing university or high school degrees. All participants self-identified as middle class, all of them with at least secondary education level. All the participants were born and raised in Cuenca, Ecuador. Hence, they are familiar with the local culture and their accent and intonation correspond to what is popularly known as the *Cantadito Cuencano*. Table 3.2 contains the number of participants as well as their gender and age at the time of the recording.

Table 3.2: Participants table

Consultant	Gender	Age at the time of recording
#1	female	21
#2	female	23
#3	female	23
#4	female	24
#5	female	26
#6	male	21
#7	male	20
#8	male	23
#9	male	25
#10	male	27

3.2 Data collection

Most of the recording sessions (90%) took place at the participants' homes, while the rest were organized at the home of the researcher. Recordings took place in a quiet space, isolated from as much background noise as possible to gather quality data. At the beginning of each interaction, demographic data was gathered, including the participants' age, education, their parents' place of origin, their mobility [27], and languages spoken. During each session, the participant was given a list of utterances along with their specific contexts and asked to pronounce them in the most natural way possible.

(15) Elicitation of the vocative token ' ¡Angie!'

Context: The participant just saw his female friend passing by from a distance and shouted to her to grab her attention.

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[27] Mobility in this context refers to whether the participants relocated or spent most of their lives in the city of Cuenca.

Examples and explanations were provided by the researcher if needed. The quality of the sample was taken into consideration by requesting the participants to speak loudly enough and at a normal pace, allowing repetitions when appropriate.

3.3 Data format and analysis

After importing the sound files into the Praat software version 6.0.43 (Boersma & Weenink, 2013), each utterance was extracted and saved in its own individual file. Then a text grid with four tiers (Utterance, Syllables, BI, Tones) was assigned to each file for annotation.

The first interval tier contained the textual representation of the utterance or sentence. The second interval tier was a syllable tier, which is useful to spot the pitch accents along the f0 contour. The third tier was the first of the two point-tiers containing the Break Indices used in the ToBI system to designate rhythm and prosodic levels. Finally, the fourth tier corresponded to the tones that define the f0 contour, which have been labeled using the ToBI system.

In order to better identify linguistic content in the pitch contour, some modifications were made. In Praat's advanced pitch settings, the octave cost and the octave jump cost were increased at 0.17 and 0.4 respectively to correct micro perturbations and octave jumps[28]. To account for gender differences, the pitch range was set at different values for men than for women. For women, the default (75-500 Hz) was mostly used, although some female participants with particularly high-pitched voices required the range to be increased to 600-700 Hz. On the other hand, the optimum value for men was from 50-300 Hz. Lastly, the f0 line was smoothed with a bandwidth of 10 Hz.

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[28] Micro perturbations and octave jumps are common problems with the graphics displayed in praat, characterized by altering the shape of the f0 contour (intonation line) and or disrupting it. If additional adjustment was needed, the octave jump fields were further modified until the desired results were obtained. Other options such as the voice threshold were changed rarely.

4. INTONATION PATTERNS IN CUENCANO SPANISH

This intonation analysis was conducted using the autosegmental metrical framework system known as ToBI and described in 2.8. The first two subsections below (4.1, 4.2) provide a general description of the nature of pitch accents (PAs) in relation to stress, focus, and other useful specifications, as well as the criteria for boundary tones (BTs) usage applied in this thesis. Most importantly, the core subsections (4.3-4.10) elaborate on the prosodic features (PAs and BTs) specific to the utterance types under analysis.

Three different tables will be provided in the following subsections and at the end of this section illustrating the pitch accent patterns, the boundary tones, and the common nuclear configurations for Cuencano Spanish. In this way, the information analyzed and documented in this section about Cuencano Spanish intonation patterns and the answers for research question 1 'What are the most salient intonation patterns found across a sample of 11 types of utterances in Ecuadorian Cuencano Spanish?' will be summarized and organized for quick consideration. Question 2 'What plausible conclusions can be drawn from the analysis of Cuencano Spanish intonation in regard to the origins of its particular accent?' will be addressed on the bases of the results, in the discussion section at the end of this thesis.

4.1 Pitch accents generalities: primary, emphatic, secondary

In Spanish, as in English and other languages, pitch accents coincide with stressed syllables. Spanish words are classified according to the position of the syllable bearing the stress. Thus, we have four main classifications:

- *Agudas* 'sharp': These are words that carry stress on the last syllable (e.g., '*temblor*' /tem.ˈbloɾ/ 'tremor', *canción* /kan.ˈsion/ 'song').

- *Graves* 'penultimate stress': These types of words are stressed on the penultimate or second to last syllable, such as *árbol* /ˈaɾ.bol/ 'tree', *viejo* /ˈbie.xo/ 'old'.

- *Esdrújulas* 'antepenultimate stress': Words are classified as *esdrújulas* if the stress falls on the antepenultimate or third to last syllable (*pájaro* /ˈpa.xa.ɾo/ 'bird'). These words always have a tilde.

- *Sobreesdrujulas* 'preantepenultimate stress': These words are marked with a tilde and have the stress on the fourth or greater to last syllable: *devuélvemelo* /de.ˈbuel.be.me.lo/ 'give it back to me', etc.

Applying the stress classification above, it can be stated that primary, emphatic, or secondary PAs are distributed in four different positions depending on the number of syllables in a word and which syllable takes primary stress.

Pitch accents take place in mostly content or lexical words (i.e., nouns, verbs, adjectives, adverbs) rather than in function words (prepositions, articles, pronouns). This suggests that Spanish gives prominence to words that traditionally express more specific concepts over words serving other more functional purposes. In general, function words correspond to flat plateaus in the intonational (tonal) string. This is not to say, however, that function words cannot have prominence under the right semantic circumstances and prosodic environment. Example 16 shows an utterance in which the function word *Y* has been emphasized over the rest of the words in the utterance.

(16)   Te tienes que comer la cebolla, el tomate, **Y** la coliflor.
        You have to eat the onions, the tomatoes, **AND** the cauliflowers.

Furthermore, of all the PAs available in the Ecuadorian Andean Spanish inventory, the bitonal L+H* is by far the most prevalent. Almost every single utterance in this sample was

observed to have at least one bitonal L+H* pitch accent in at least one of its prosodic words (PWs)[29]. This PA appears on nearly every PW in the sample, and can be found in both prenuclear and nuclear positions.

In Figure 4.1, the bitonal pitch accent L+H* appears in both nuclear and prenuclear positions (See Figure 2.7). It has been labeled positioning the L as close as possible to the beginning of the rise on the accented syllable. It is important to note, though, that this low tone may start a few syllables ahead from the tone bearing unit (TBU), and that this is common in most instances of this pitch accent. It should also be mentioned that the H* tone is typically aligned with the peak of the accented syllable. After this pith accent is realized, there is typically a drop in the intonation contour observed in the posttonic syllable adjacent to it, which can also continue onto the next syllables.
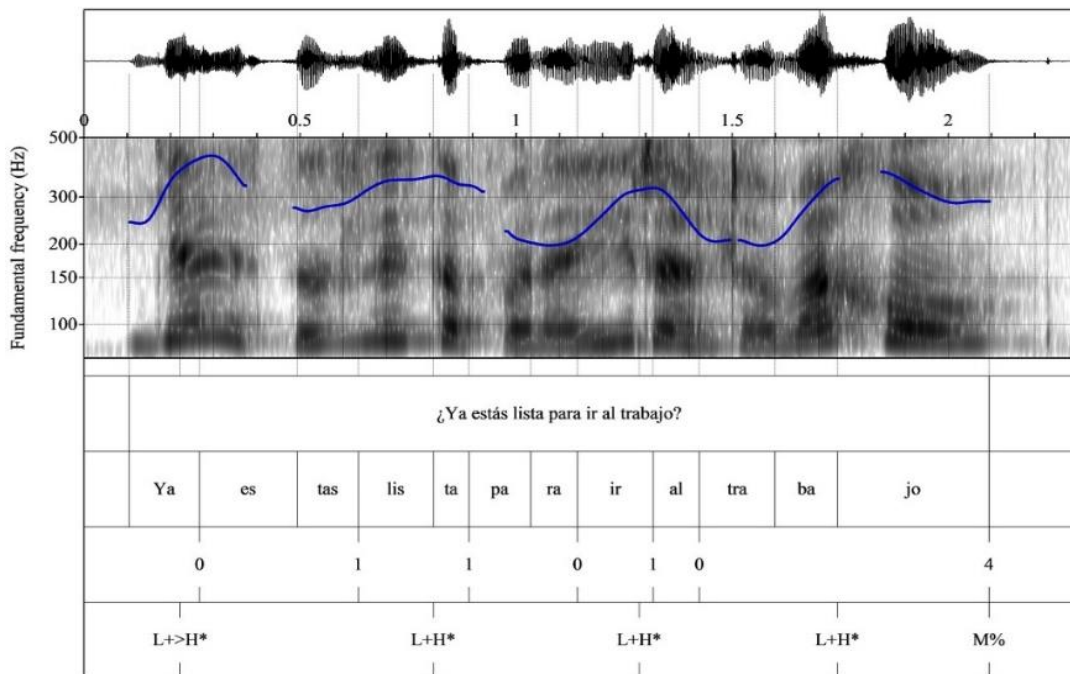
Figure 4.1: Waveform, spectrogram, and pitch contour for the yes/no question *¿Ya estás lista para ir al trabajo?* "Are you [a woman] ready to go to work?" containing four bitonal PAs (One

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[29]Primary and secondary pitch accent(s) must not be confused with the concept of pitch accents included in the ToBI system, as the latter is based on a tonal autosegmental classification independent from the specific stress rules of the language to which it is applied.

L+> H* on the first PW followed by three L+H* PAs from the second to the fourth PWs) and ending with a M%.

What seems to be a tritonal L+H*+L PA has been previously documented in Prieto (2014) in her analysis of the intonation of Agurese Catalan. Prieto (2014) refers to this pitch accent as a tritonal rise and fall on the accented syllable. Nonetheless, Stewart (2015), who also found this pattern in Media Lengua, points out that such distinction is unnecessary because a fall is always expected after the peak in the L+H*. He also mentions that this fall carries over to the next syllable, and that since this second realization does not affect the intonational grammar, the distinction is superfluous. Moreover, it should be noticed that O'Rourke's (2010) Ecuadorian Andean PA inventory includes a second incomplete realization of the rise and fall tritonal pattern under the same L+H* label.

Considering these previously mentioned findings, I have chosen to distinguish this tritonal PA from the other versions of the conventional L+H* and all the other bitonal PAs by adding the diacritic caret symbol '^' before the H tone, L+^H*. I have chosen this symbol because it represents the emphasis placed on the syllable, which is a characteristic of this particular pitch accent and can be present by means of unusual pitch height, vowel lenghtening, or both. Moreover, the caret also resembles the whole rise and fall pitch movement that best describes this pitch accent. However, it must be observed that only those pitch accents that present a complete rise and fall emphatic pattern on the stressed syllable have been labeled as L+^H* PAs. Any other PAs exhibiting an incomplete rise and fall pattern have been considered standard L+H* pitch accents. This happens sometimes because the f0 is not registered in Praat due to the phonological environment (most notably in the proximity of voiceless obstruents).

Emphatic pitch accents, as the name suggests, appear on words or parts of prosodic words that receive especial focus. Hence, they are usually found in narrow focus statements. However, any utterance type can have emphatic pitch accents provided one or more of its prosodic words are emphasized for semantic, emotional, or stylistic purpose. Interestingly, the ocurrence of the L+^H* or bitonal caret PA can be related to the degree of emphasis placed on the pronunciation of a specific word, which makes this PA a good example of emphatic pitch accents.

Figure 4.2 shows a narrow focus statement in which the pronominal _nadie_ /ˈna.die/ 'nobody' has been emphasized as a result of the participant being asked to imagine a situation in which "nobody passed the school year" and so he expresses his disappointment about it. Notice how the vowel in '_na'_ has been lengthened and how the rise-fall pattern representing the emphatic L+^H* is a complete rise and fall movement that is much wider in length and higher in pitch than the regular L+H*. Therefore, I have decided to label this PA as L+^H* due to the increase in its peak height and width.
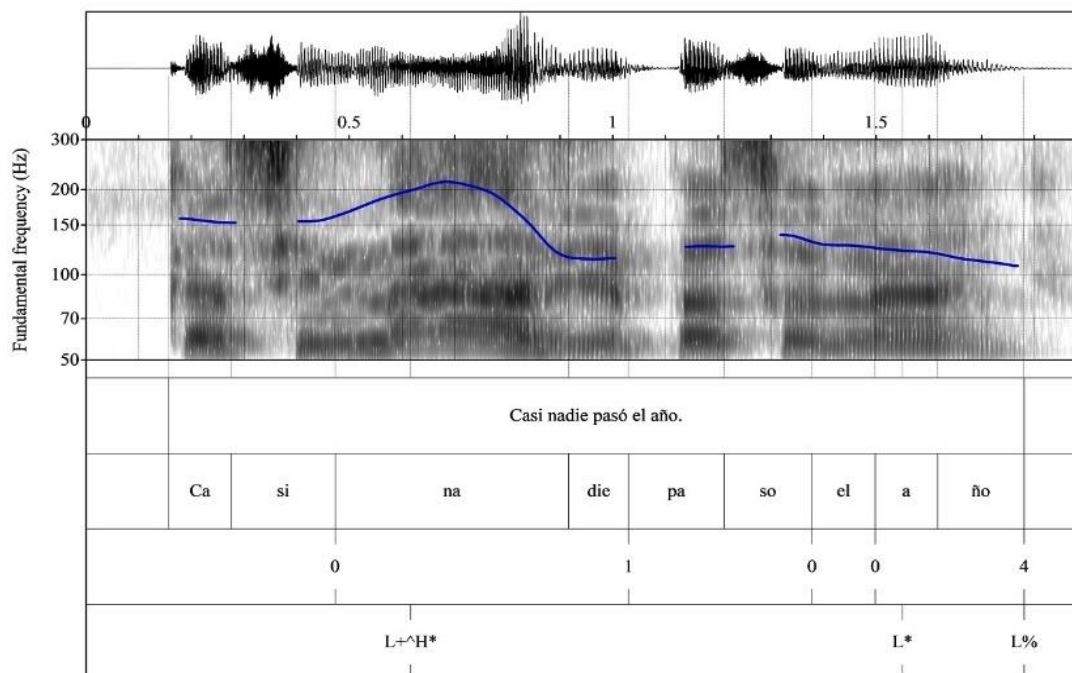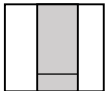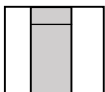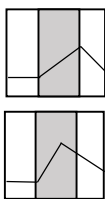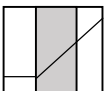
Figure 4.2: Waveform, spectrogram, and pitch contour for the narrow focus statement _Casi nadie pasó el año_ 'Almost nobody passed the school year.' produced with an emphatic L+^H* in prenuclear position and finishing with a low boundary tone.
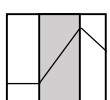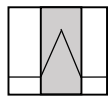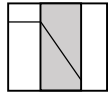
Note that although Spanish has words that carry a secondary pitch accent, they are rare. These words typically fall into the category of the _sobresdrújulas_ (similar to antepenultimate stress) and are most likely adverbs of manner, such as _fácilmente_ /ˈfa.sil.men.te/ 'easily', _pacíficamente_ /pa.ˈsi.fi.ka.men.te/ 'peacefully', etc. Due to their rarity, no tokens containing such words were elicited in the sample under analysis.

Table 4.1 below illustrates the inventory of pitch accents observed in this analysis of Cuencano Spanish intonation. They have been classified into monotonal and bitonal pitch accents.

Table 4.1: Pitch accents inventory for Cuencano Spanish[30] based on SP_ToBI descriptions but adapted for Cuencano Spanish (Aguilar et al., 2009).

Monotonal Pitch Accents	
L*	This pitch accent is phonetically realized as a low plateau at the baseline of the speaker's range. It can be found in prenuclear position in every utterance type in this research database, and in nuclear position in broad focus statements, imperatives, wh-question, and lists.
H*	This pitch accent is phonetically realized as a high plateau at a high point in the speaker's range. It does not show any visible pitch contour before it. It has been found in prenuclear position in yes/no questions and imperatives in this research database, and in nuclear position in yes-no questions, information seeking wh-questions, and some exclamative statements.
Bitonal Pitch Accents	
L+H*	This pitch accent is phonetically realized as a rise on the accented syllable with the peak located before or at the end of this syllable. The falling movement of the pitch typically continues over the posttonic syllable. It is found virtually in every single utterance in this database in both prenuclear and nuclear positions.
L+>H*	This pitch accent is phonetically realized as a rising pitch movement on the tonic syllable that continues over the next syllable. It has been found typically in prenuclear position in yes/no questions and imperatives in this research database and rarely in nuclear position.

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[30] Some of the most common diacritic symbols in Spanish ToBI are * (indicates pitch accents and target of the movement), > (shows that the rising tonal movement continues onto the posttonic syllable), ¡(represents an emphatic pitch accent with an increase in pitch height), ^ (the caret diacritic symbol used in this thesis to label the emphatic pitch accent made up of three tones).

	L+ H*	This emphatic pitch accent is phonetically realized as a rise on the accented syllable with a visibly high peak located before or at the end of this syllable. The falling movement of the pitch typically continues over the posttonic syllable. It can be found virtually in both nuclear and prenuclear positions in narrow focus or emphatic statements.
	L+^H*	This emphatic pitch accent is phonetically realized as a complete rise and fall pitch movement on the accented syllable with the peak located before the end of this syllable. It has been found in narrow focus statements, such as negative statements, and exclamative statements in both prenuclear and nuclear positions.
	H+L*	This pitch accent is phonetically realized as a drop that starts from a high position at the onset of the accented syllable and typically finishes at the end of this syllable. It is found in prenuclear and nuclear positions in broad focus statements, such as declarative statements, vocatives, imperatives, etc.

4.2 Boundary tones
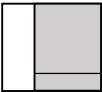
The criteria for Break Index levels usage in this thesis comprise three clear points. 1) Break Index level 4 will be used exclusively to indicate intonational phrase boundary tones (IPBTs) at the end of the intonational phrase (IP). 2) Intermediate phrase boundary tones (ipbts) will be designated by Break Index level 3 only when the pause dividing the utterance is perceived clearly, e.g., a clear disruption in the IP's flow. 3) It has been considered superfluous to use Levels 2 and 4 to mark phrasing within utterances, which will therefore not be used for this purpose. The reasoning behind these criteria is that level 2 is rather close to level 1 that it becomes superfluous because there is not a clear disruption of the IP as indicated by level 3. This is why it is rarely used, although some authors use it because they adhere strictly to the conventions. As for level 4, it is mostly used to designate the IP at the end of the utterance. Some authors use it to divide complex utterances that have two or more distinctive IPs; these, however, were not found in this thesis sample. Other authors overuse level 4 where there is no clear justification for it. So, most of the

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time it should just be enough to employ levels 1 and 3 to mark prosodic words and intermediate phrases within utterances respectively.

As a result of the analysis three IPBTs (L%, HH%, M%) were found in the sample for Cuencano Spanish. The ipbts, on the other hand, have been reduced to only two possible tones, L- and H-. While the traditional SP_ToBI inventory also includes a middle tone M-, I decided to simplify the notation as the basic L- and H- ipbts suffice to indicate where the pitch target is moving based on its relative position.

Although these simplified criteria differ from the standard, it has been chosen because it provides a simpler, more effective approach to BI labelling. This approach helps avoid unnecessary complications, such as difficulty in the interpretation of the analysis because of confusing patterns. Table 4.22 includes both the IPBTs and ipbts for Cuencano Spanish.

Table 4.2: Boundary tones inventory for Cuencano Spanish based on SP_ToBI descriptions but adapted for Cuencano Spanish (Aguilar et al., 2009).

Intonational Phrase Boundary Tones
L%   The L% is phonetically realized as a low prolonged tone or fall at the baseline of the speaker's range. It is found at the end of broad and narrow focus statements, imperatives, wh-questions, conditionals, vocatives, etc.
M%   The M% is phonetically realized as a middle tone or a rising or falling movement to a mid-position. It is found at the end of broad and narrow focus statements, imperatives, wh-questions, exclamative statements, and some yes/questions, etc.

	HH%	The HH% is phonetically realized as a high rise from a lower position or a low/high pitch accent. It is typically found at the end of yes/no questions, tag-questions, interjections, exclamative statements, and some echo wh- questions.
	Intermediate Phrase Boundary Tones	
	L-	The L- is phonetically realized as a low tone or fall marking the end of the intermediate phrase. It is usually found in conditional sentences, lists, vocatives, exclamative statements, and any other utterance that contains pauses or intermediate phrases.
	H-	The H- is phonetically realized as a high tone or rise marking the end of the intermediate phrase. It is usually found in conditional sentences, lists, vocatives, exclamative statements, and any other utterance that contains pauses or intermediate phrases.

4.3 Statements

4.3.1 Broad focus statements

Out of the 50 tokens analyzed in the declarative utterance category, 42 (84%) are broad focus statements. 17(34%) out of 50 tokens have the H+L* PA in nuclear position, the rest exhibits a L*- L% nuclear configuration[31]. Broad focus statements tend to have a variety of pitch accents localized in different positions depending on the number of prosodic words conforming the utterance.

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[31] Nuclear configuration refers to the combination of the PA in nuclear position and the IP boundary tone.

4.3.1.1 Declaratives

Figure 4.3 shows a declarative sentence with three prosodic words and three pitch accents (two prenuclear and one nuclear). The first PA starts with a L tone at the onset of the second syllable of *vecino* /be.ˈsi.no/ 'neighbour' and rises to a H* at the end of it. It can be observed, however, that the rising contour is not entirely realized because of the sibilant sound of the /s/, which causes the tonic syllable to have a voiceless onset. Then the pitch moves downwards to a low target on the first segment of *est*á/es.ˈta/ 'is' and once again the sibilant /s/ sound shows up as a gap in the intonation line because the realization of the fundamental frequency requires evenly spaced fluctuations (i.e., voicing) in order for the f0 to be calculated. However, the tone does not rise this time but rather stays at the same level until it reaches the accented syllable /ta/ from which a drop starts. Therefore, this tone has been labeled as a H+L* bitonal pitch accent. The drop continues over to the next prosodic word where another H+L*tone is identified in nuclear position.
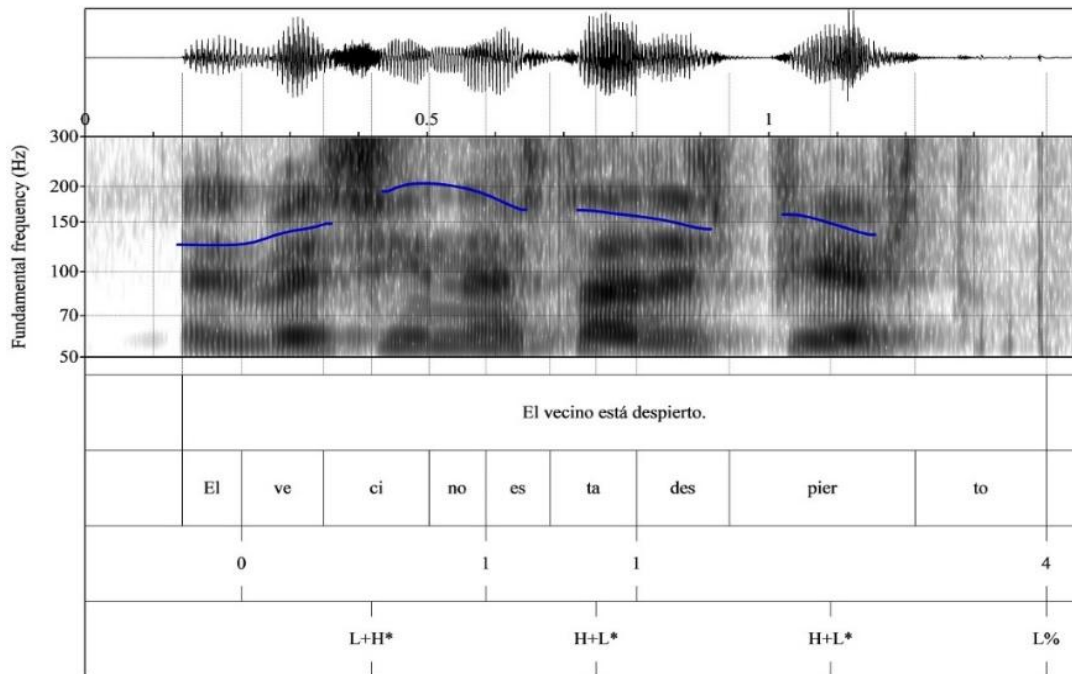
Figure 4.3: Waveform, spectrogram, and pitch contour for the declarative sentence *El vecino está despierto* 'the neighbour is awake.' that shows two prenuclear L+H* and H+L* PAs and a nuclear H+L* followed by a L% as occurs in many utterances of this type.

This tone could also be taken to be the second half of an underlying H+L* tone whose rise is not visible as it starts at the closure in preparation for the /p/ in the tonic syllable of *despierto* /des.ˈpieɾ.to/ 'awake'. The utterance naturally ends in a L% boundary tone typical of declarative sentences and general statement IP intonation. Break Index 4 has been placed at the end of the utterance under no visible pitch contour because of devoicing of the last syllable in the utterance, which was common in the sample.

4.3.2 Narrow focus statements

4.3.2.1 Negative statements

36 (72%) of the 50 negative statements analyzed can be considered narrow focus statements with an emphasis on the negative particle. In general, narrow focus statements typically exhibit a peak on the stressed syllable of the prosodic word carrying the most emphasis. For instance, the negative particles and negative quantifiers particularly found in emphatic negative statements stand out for bearing prominent PAs in comparison to the rest of PWs in the sentence. This is observable in the L+ ¡H* pitch accent on top of the first prosodic word in Figure 4.4, which appears as a considerable leap to a H target during the first syllable of the negative adverb *nunca* /ˈnun.ka/ 'never'. Then the predicted tonal drop on the post-tonic syllable occurs and the rest of the utterance becomes deaccented, except for a slight f0 rise on the pre-tonic syllable of *mintió* /min.ˈtio/ 'lied' that peaks and falls along the diphthong in the second syllable, forming a less prominent H+L*.

The utterance naturally ends in a L% boundary tone. In terms of context, it must be noticed that the speaker was requested to emphatically impose herself by denying an imaginary person's statement, which she successfully accomplishes by energetically stressing the negative adverb. Note that the final boundary tone does not align with the last portion of the f0 line because of devoicing.
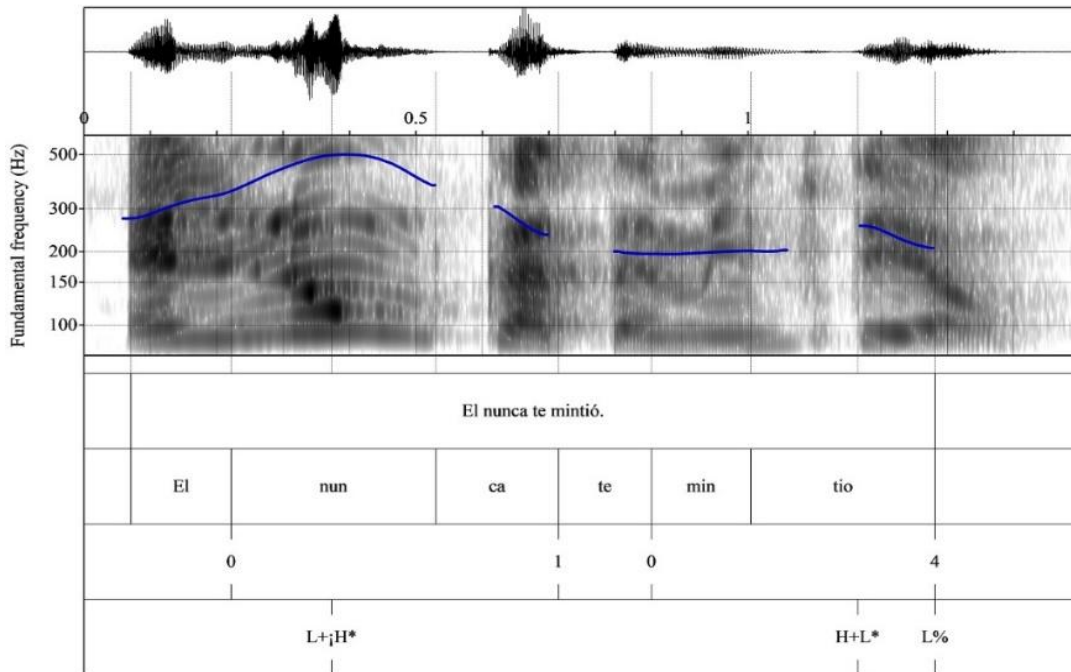
Figure 4.4: Waveform, spectrogram, and pitch contour for the emphatic negative statement *El nunca te mintió* 'He never lied to you.' produced with an emphatic L+ ¡H* in prenuclear position followed by a nuclear H+L* and finishing with a low boundary tone.

In contrast, the image in Figure 4.5 also shows a negative statement with an emphatic L+ ¡H* pitch accent realized as a mount in prenuclear position on the negative adverb *no* /no/ 'no'. Next, the fundamental frequency contour becomes deaccented in the verb *compré* /kom.ˈpɾe/ '*I bought'* and then continues to build up to approximately the first half of a small ridge represented by a nuclear L+H* in the first syllable of *nada /*ˈna.da/ '*nothing/anything'*. Then it concludes with a M% boundary tone. In this example, there is no intermediate phrase and the focus is placed on the two negative particles instead of one. We also notice that the intonational accent given to *no* and *nada* is more prominent than that of the verb, which appears to be deaccented[32].

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[32] Deaccented words or parts of the tonal string do not carry pitch accents as they are not relevant in terms of pitch movement.
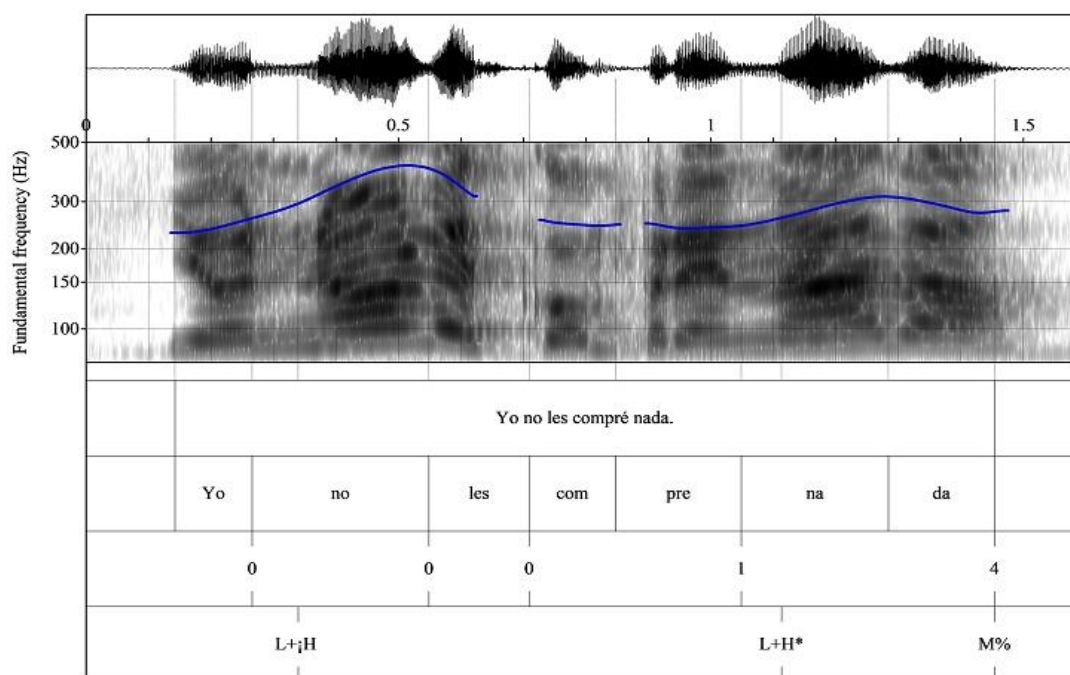
Figure4.5: Waveform, spectrogram, and pitch contour for the narrow focus negative statement *Yo no les compré nada* 'I didn't buy them anything.' produced with an emphatic L+¡H in prenuclear position and finishing with a M%.

4.4 Lists

Similar to what happens with statements, lists contain an increased number of segmental material and therefore have more than one pitch accent in prenuclear position. Something that is typical of this type of utterance is the presence of breaks or interruptions in the f0 string that are caused by pauses between each element on the list. However, from a total of 50 utterances analyzed, 22(44%) did not present any type of pause. The realization of L+H* PAs on each of its elements is another cross-linguistic common occurrence in lists. These patterns are represented in Figure 4.6 showing two instances of a BI level 3 and their respective L- phrasal tones, illustrating a pause not only between elements of the list but also after the verb introducing them, which is a typical cross-linguistic feature of lists. Regarding pitch accents, three prenuclear L+H* PAs are observed, one on the verb *fuimos* /ˈfui.mos/ 'we went' and two on both *Quito* /ˈki.to/ and *Cuenca* /ˈkuen.ka/. A nuclear L* pitch accent is evinced on the last element of the list, *Galápagos* /ga.la.ˈpa.gos/ Once

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again, we encounter devoicing at the end of the utterance. The last two vowels are devoiced, so much so that the last part of the word is barely heard, which explains why the boundary tone L% appears after the visible pitch contour has ended.
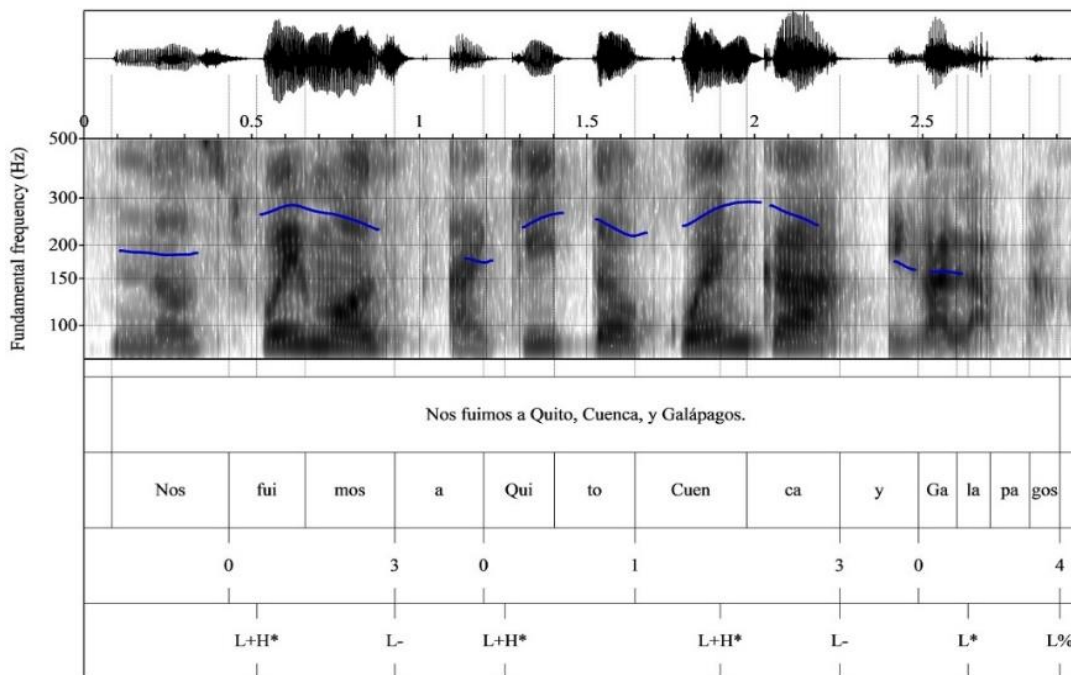
Figure 4.6: Waveform, spectrogram, and pitch contour for the list *Nos fuimos a Quito, Cuenca, y Galápagos* 'We went to Quito, Cuenca, and Galapagos.' produced with L+H* pitch accents in prenuclear position, two L- tones, and finishing with a low boundary tone.

As with any other utterance type in the sample, emphasis can always be added to a certain degree without calling for a PA emphatic label. Figure 4.7 illustrates this occurrence with a somewhat noticeable L+H* pitch accent in the first syllable of *buenas* /ˈbue.nas/ 'good' right before the L* PA in nuclear position before the L% BT. In addition, we find two other bitonal and one monotonal PAs (H+L*, L*, and L+H*) in prenuclear position on the accented syllables of *peras* /ˈpe.ras/ 'pears', *naranjas* /na.ˈran.xas/ 'oranges', and *limones* /li.ˈmo.nes/ 'lemons' respectively. Only one clear ipbt (H-) is present signaling the end of the intermediate phrase after the last element on the list.
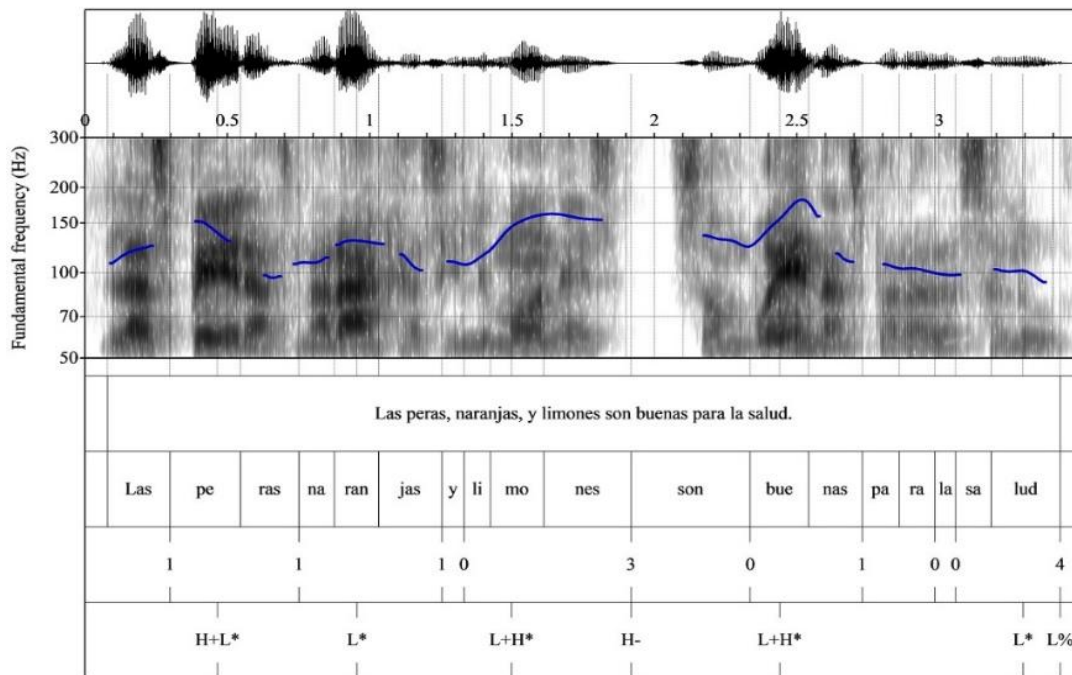
Figure 4.7: Waveform, spectrogram, and pitch contour for the list *Las peras, naranjas, y limones son buenas para la salud* 'Pears, oranges, and lemons are healthy food.' produced with a H+L* at the beginning of the utterance, one L- and a H- tones, two L+H* in prenuclear position and finishing with a L%.

4.5 Conditionals

Conditional sentences are similar to lists in that they also contain ipbts, especially when an if clause comes first. A token illustrating this situation appears in Figure 4.8, where a BI level 3 labelled with a L- intermediate phrase boundary tone signals the end of the if clause. We can also observe that the first relevant event in the f0 contour is a L+H* pitch accent on the tonic syllable of *tienes* /ˈtie.nes/ 'you are'. Next, the emphatic L+^H* is found on *frío* /ˈfrio/ 'cold'. Subsequently, the ipbt L- appears before the main clause that seems to be accented on the first verb *ven* /ben/ 'come' but a L* pitch accent can be actually heard on the second verb 'doy' /ˈdoi/ 'I give', followed by a small protuberance formed by a L* in nuclear position in the second syllable of *cobija* / ko.ˈbi.xa/ 'blanket'. The utterance finishes with a L%. As with many of the utterance tokens in the sample, devoicing can be seen at the end of the sentence, and consonant closures are evident before

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consonants (dental, fricatives, labiodental, palatal) in the spectrogram. 30(60%) out of 50 tokens were produced with the if clause first and show the same characteristics as in Figure 4.8.
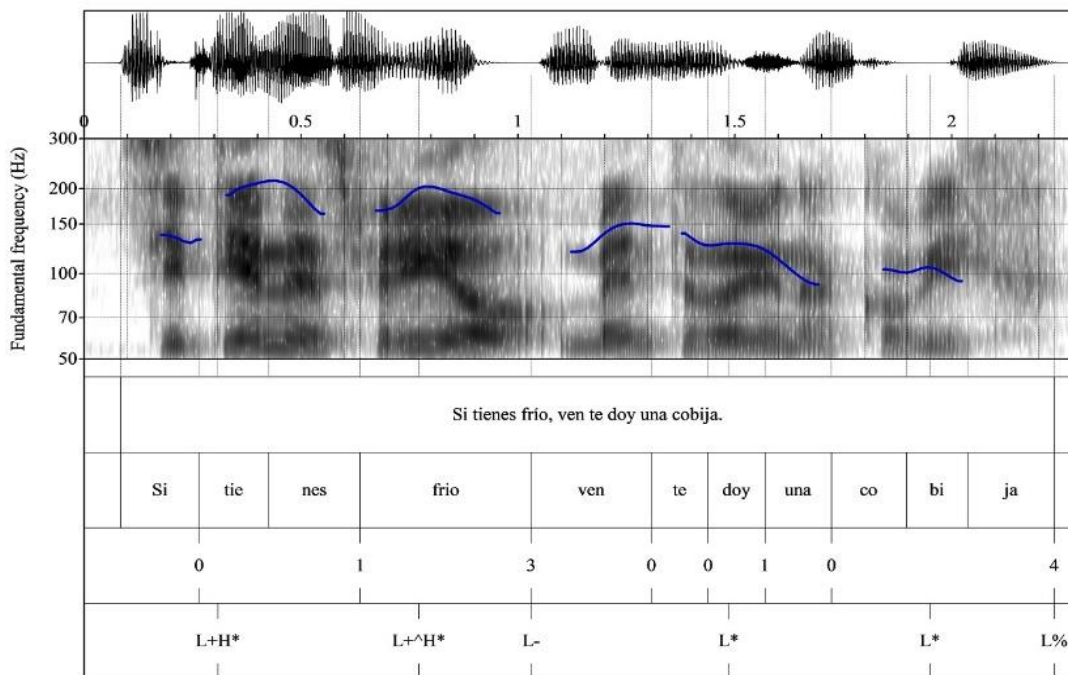
Figure 4.8: Waveform, spectrogram, and pitch contour of the conditional sentence *Si tienes fr ó, ven te doy una cobija* 'If you are cold, come I give you a blanket.' produced with an emphatic L+^H* in prenuclear position and finishing with a L%.

20 tokens (40%) in the sample of 50 were produced with the second arrangement for conditional sentences, the main clause before the if-clause. With this arrangement, a corresponding tonal configuration shows up as demonstrated in Figure 4.9. Firstly, we only find prosodic words separated by level 1 Break Indices, which indicates that there is no important disruption in the flow of the intonational contour. The intonational phrase starts with a rise to a higher tone or H* on the first syllable of the word *p ónte* /ˈpon.te/ 'wear' that continues to another higher L+H* tone on the second prosodic word, which results from the absence of a visible rise caused by the /s/ sound at the onset of the stressed syllable in *casaca* /ka.ˈsa.ka/ 'jacket'. There is one more L+H* pitch accent in prenuclear position in *tienes* [ˈtie.nes] 'you are' and then the f0 moves upwards to a

H+L* PA on _fr ó_ /ˈfrio/ 'cold' to finish in a L% boundary tone. A bit of downstep[33] is also visible in the pitch contour as reflected by the repetition of basically the same pitch patterns, when considered overall, but at a lower frequency.
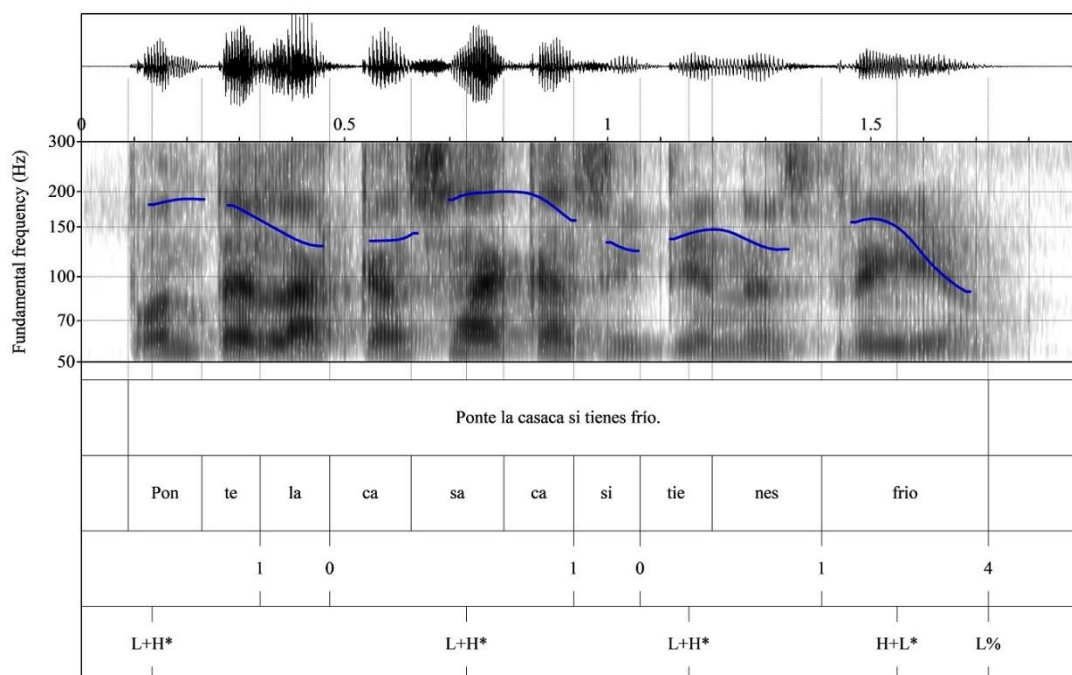
Figure 4.9: Waveform, spectrogram, and pitch contour for the conditional _P ónte la casaca si tienes fr ó_ 'Put on your jacket if you are cold.' produced with three L+H* in prenuclear position and a H+L* pitch accent in nuclear position, ending in a low boundary tone.

4.6 Questions

4.6.1 Yes/No questions

Yes/no questions constitute the most basic type of questions found in the sample. Although the contexts in which they were produced are diverse, the 50 tokens for this category were divided into 30 information and 20 confirmation seeking yes/no questions. 100% of the information seeking and confirmation seeking yes/no questions can have any of the PAs in the inventory of

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[33] Downstep in this context is understood as the reproduction of a similar or the same pattern at a different scale in hertz.

Cuencano Spanish and are likely to exhibit the L+>H* pitch accent, though not commonly. All the information seeking yes/no questions exhibit rising final intonation or, exceptionally, middle final intonation. In addition, 8(4%) out of 20 confirmation seeking yes/no questions were found to present falling final intonation like statements. Figure 4.10 displays the typical information seeking yes/no question found in the data. It reveals that the pitch contour starts at around 300 Hz in correspondence with the vocal range of the female speaker producing the utterance. Since it is a short utterance, only one pitch accent is found in prenuclear position on *hablas* /ˈa.blas/ 'do you speak' realized as a L+H* beginning just below the 300 Hz mark and ending just beyond the same value. The second pitch accent is also a bitonal L+H* in nuclear position localized on the second syllable of *inglés* /in.ˈgles/ 'English'. This second PA, however, shows a much more substantial rise in the tonal frequency, almost reaching the 500 Hz mark, as is commonly found in standard yes/no questions of the information seeking type. Note that the voiceless fricative sound of the /s/ displays no visible pitch contour; however, the corresponding HH% boundary tone has been placed right after it, because this position better represents the ending of the utterance, and it has already been specified that PAs tend to peak on vowels.
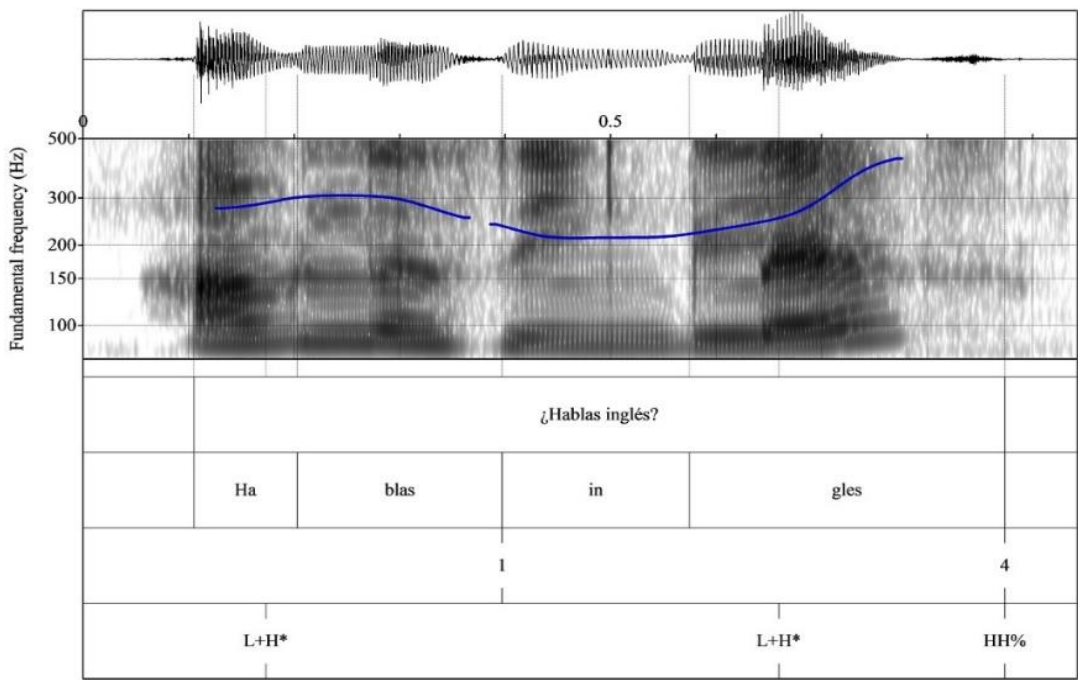
Figure 4.10: Waveform, spectrogram, and pitch contour for the yes/no question *¿Hablas inglés?* 'Do you speak English?' produced with two prenuclear L+H* and finishing with a HH%.

Figure 4.11 shows that adding a pragmatic linguistic device conveying politeness, such as the phrase *por favor* /poɾ fa.ˈboɾ/ 'please' at the end of information seeking yes/no questions can switch the standard HH% to an M% or L%, similar to that found in the intonational contour of information seeking wh-questions. However, it must be noted that O'Rourke (2010) study on Ecuadorian Andean intonation demonstrated that the opposite is also possible (e.g., a yes/no question token in O'Rourke (2010) shows a rising boundary tone after the word *por favor* in utterance final position).
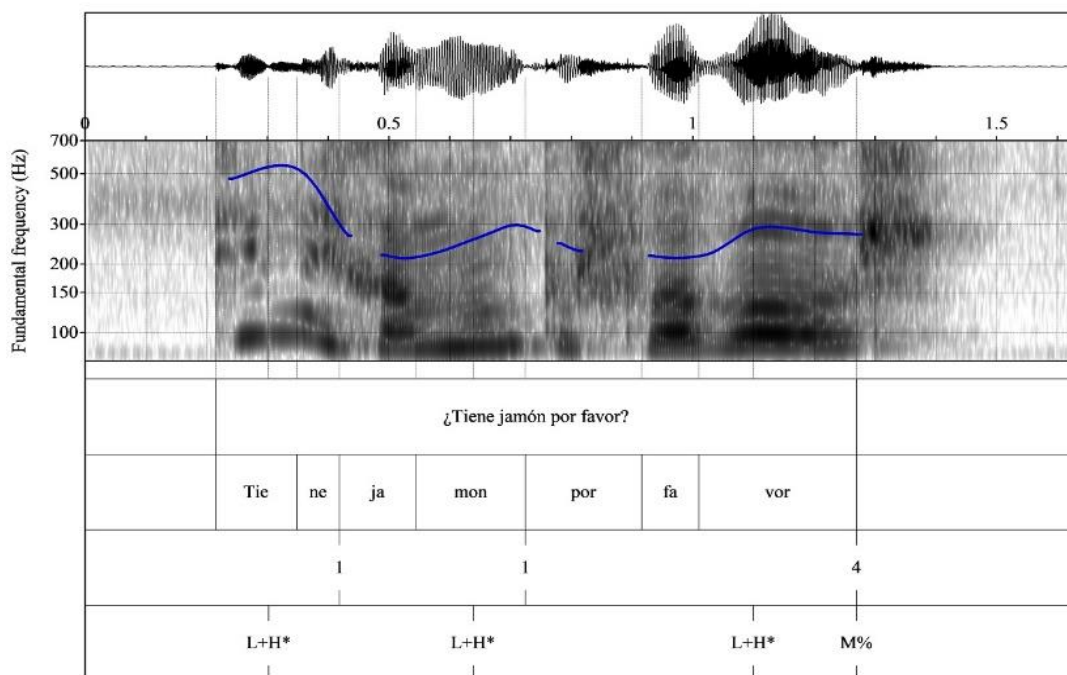
Figure 4.11: Waveform, spectrogram, and pitch contour for the yes-no question ¿Tiene jam<u>ón</u> por fa<u>vor</u>? 'Do you have ham, please?' produced with two prenuclear and one nuclear L+H* ending with a middle boundary tone.

As can be observed in Figure 4.11, there are two L+H* pitch accents in prenuclear position in the tonic syllables of *tiene* /ˈtie.ne/ 'do you have?' and *jam<u>ón</u>* /xa.ˈmon/ 'ham', the first of which begins high and reaches an even higher peak at above 500 Hz. Based on the data, this tonal feature in itself is not usual at the beginning of the standard yes/no question in this and other varieties of Spanish. However, according to the token described and my impressionistic observations as a long-time resident of Cuenca, this phenomenon occurs with high frequency in this particular region of

Ecuador. We can also find a third L+H* realized on the last syllable of 'por fa<u>vor</u>'[34] that leads to a relatively low boundary tone M% when compared to the rest of the tonal array of this particular utterance.

4.6.2 WH-questions

4.6.2.1 Information seeking wh-questions

The tonal configuration for information seeking wh-questions in Cuencano Spanish resembles that of the standard declarative statement, except that the first word of the utterance, oftentimes the question word, tends to be emphasized with a higher PA. This is evident in Figure 4.12 where the question word *quiénes* /ˈkie.nes/ 'who' starts high in the intonational contour at above 500Hz with a H+L* falling pitch on its tonic syllable. The rest of the utterance contains one L* tone on reunión /reu.ˈnion/ 'reunion' in nuclear position and closes with a relatively low boundary tone or L% for the female speaker at under 300 Hz. In this type of utterance there exists deaccentuation. 30 (60%) out of 50 tokens showed this same final intonation pattern, although not always with deaccentuation[35].

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[34] Note the usual fricativization of the trill' realized as either [r̝] or [z̻] in the word *por favor*.

[35] Deaccentuation refers to the loss of accent in some of the prosodic constituents, part of the f0 contour.
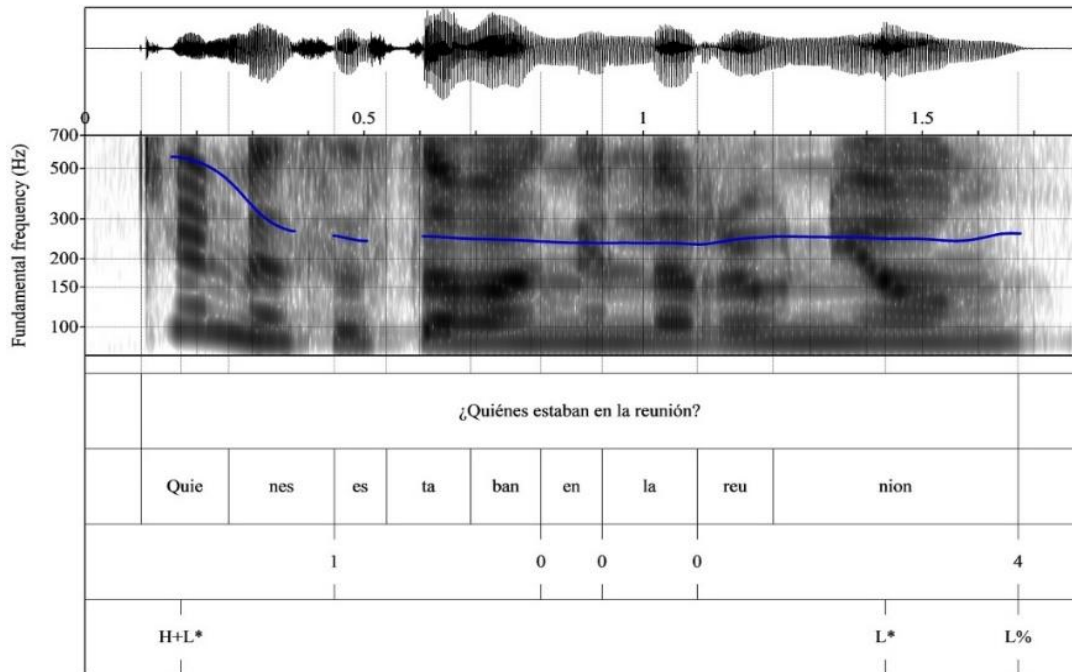
Figure 4.12: Waveform, spectrogram, and pitch contour for the information seeking wh-question *¿Quiénes estaban en la reunión?* "Who were in the reunion?" produced with a H+L* in prenuclear position and finishing with L%.

4.6.2.2 Imperative wh-questions

Imperative wh-questions (10/20% tokens) maintain the standard pattern for wh-questions discussed above with some semantic variation. Figure 4.13, for instance, depicts a L+H* with a high peak on *Cuándo* /ˈkuan.do/ 'When' and a L* on *hacer* /a.ˈseɾ/ 'do' both in prenuclear position, plus a nuclear drop or H+L* on *tareas* /ta.ˈɾe.as/ 'homework'. The utterance naturally ends in a L%. Unlike the standard wh-questions, which typically undergo deaccentuation after the question word is produced, imperative wh-questions appear to end low as the verb also carries prosodic information.
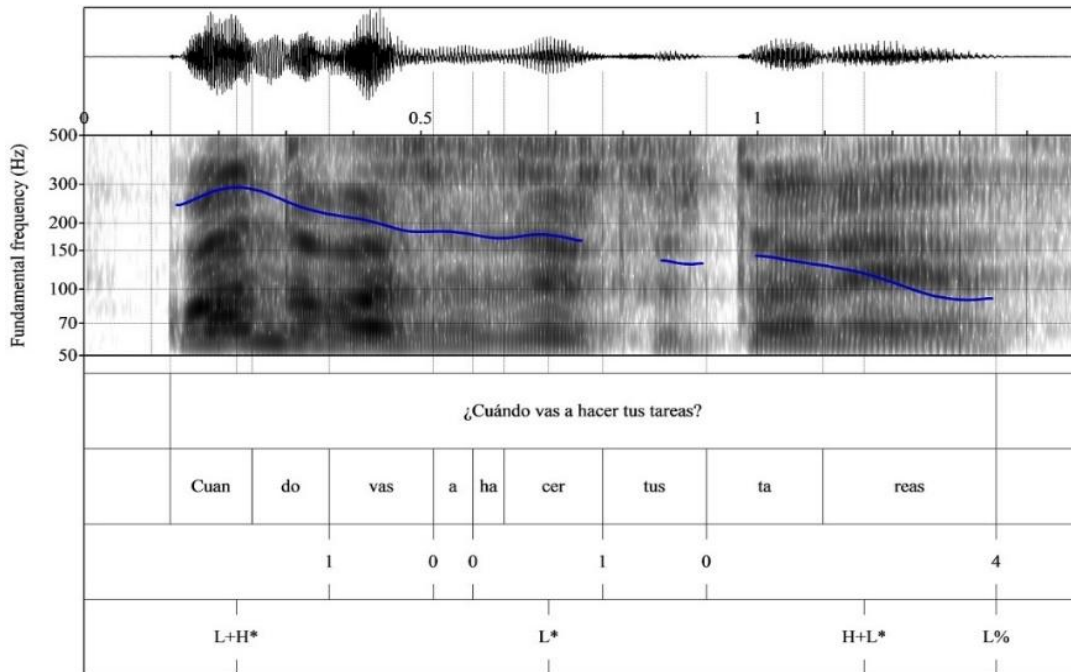
Figure 4.13: Waveform, spectrogram, and pitch contour for the imperative wh-question *¿Cuándo vas a hacer tus tareas?* 'When are you going to do your homework?' produced with a combination of L+H*, L* and H+L* tones and finishing with a L%.

4.6.2.3 Echo wh-questions

Another exception to the default prosodic patterns observed in wh-questions appears in echo wh-questions. In Figure 4.14, for example, we can observe how the f0 contour appears with two L+H* pitch accents on *qué* /ˈke/ 'what' and *comimos* /ko.ˈmi.mos/ 'ate' in prenuclear position, followed by a nuclear L+H* on *hoy* /ˈoi/ 'today' to conclude with a HH% boundary tone, much like the ones typically found at the end of yes/no questions. In these tokens (10%) the prosodic emphasis switches from the question word to the last PW in the utterance.
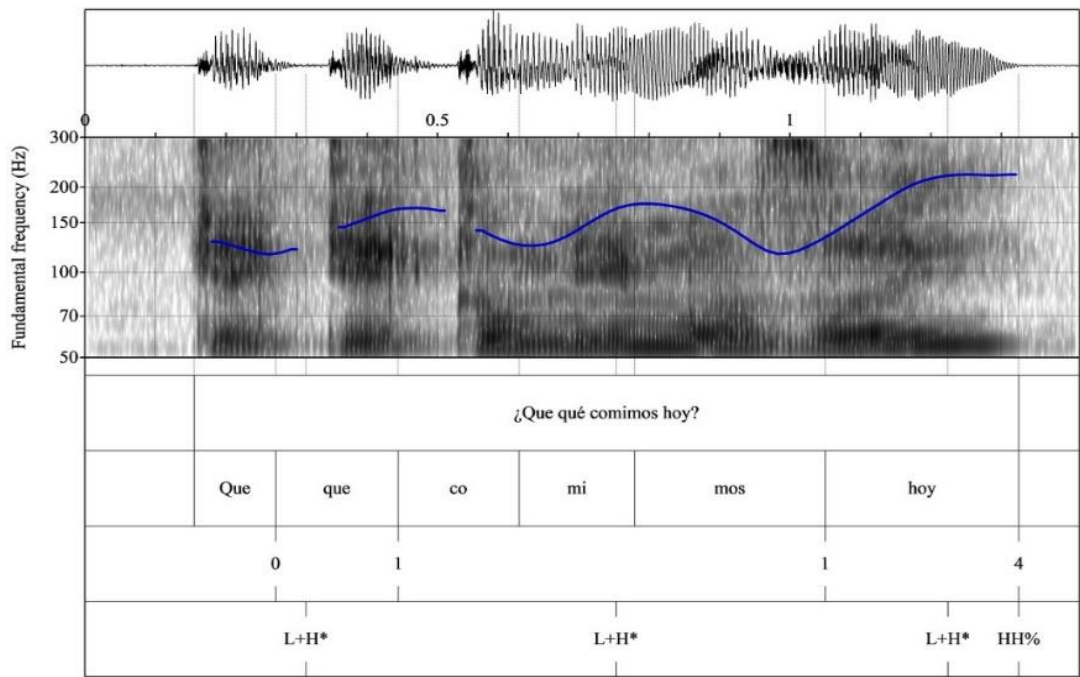
Figure 4.14: Waveform, spectrogram, and pitch contour for the echo wh-question *¿Que qué comimos hoy?* 'What… what we ate today?' produced with three L+H* pitch accents and a HH%.

4.6.3 Tag-questions

Based on the examination of the data, tag-questions can be divided into three categories with respect to their semantic purposes: tag-questions that seek for confirmation (20 tokens/40%), tag-questions that are genuinely asking for an answer (20 tokens/40%), and those that aim to persuade the listener (10 tokens/20%).

4.6.3.1 Confirmation seeking tag-questions

The tag-question in Figure 4.15, for instance, seeks to confirm the speaker's assumption that something has been carried out, (in this case, homework). The first bitonal L+H* pitch accent appears on the second syllable of *acabaron* /a.ka.ˈba.ron/ 'finished' Then a fall can be seen on the

accented syllable in the second prosodic word in *tarea* /ta.ˈre.a/ 'homework' indicated by a H+L* pitch accent. Subsequently, the pitch rises again on the first syllable of *cierto* /ˈsier.to/ 'right' and is labeled as a H* tone in nuclear position. The f0 then increases slightly and is sustained until the end of the utterance granting a relatively high boundary tone (HH%).
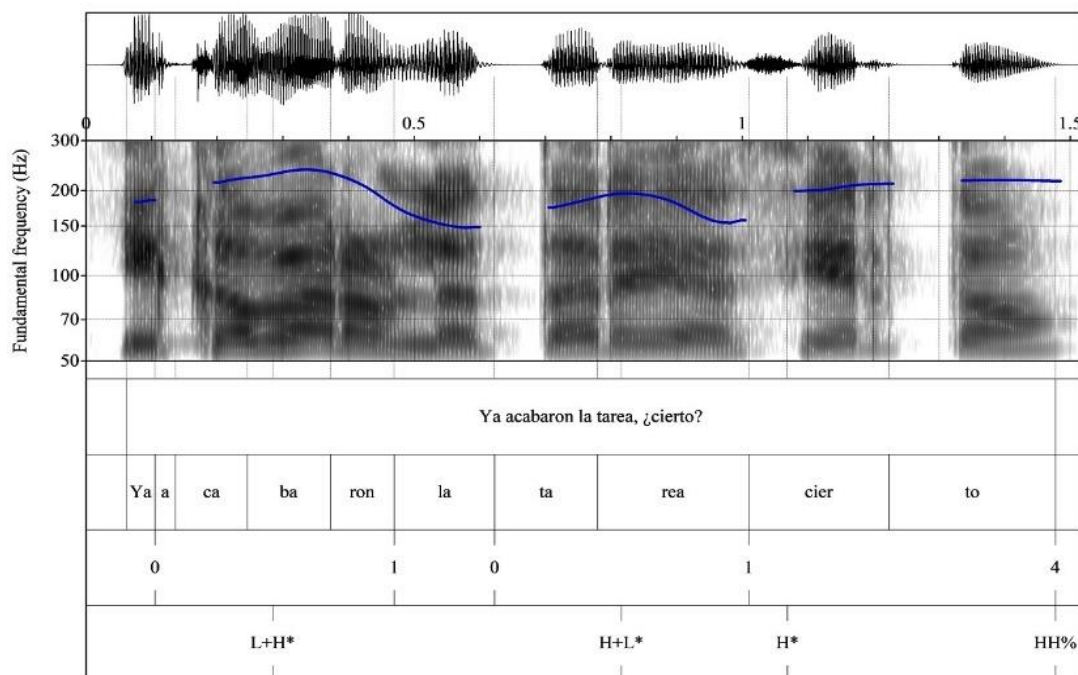
Figure 4.15: Waveform, spectrogram, and pitch contour for the confirmation seeking tag - question *Ya aca<u>ba</u>ron la ta<u>rea</u>, ¿<u>cier</u>to?* 'You already finished your homework, right?' produced with a H* in nuclear position that is sustained until it reaches a HH%.

4.6.3.2 Information seeking tag-questions

Similarly, the yes/no answer seeking tag-question in Figure 4.16 exhibits a set of tones that comprises one L+H* in prenuclear position at the beginning of the question in the word *enten<u>dis</u>te* /en.ten.ˈdis.te/ 'did you understand'. Then the immediately following function words in the utterance render it deaccented until the next prenuclear position where it becomes accentuated again with a H+L* pitch accent on *expliqu é* /eks.pli.ˈke/ 'explained', followed by the tag particle *<u>no</u>* /no/ 'no', which takes a L+H* that leads to a relative HH% .
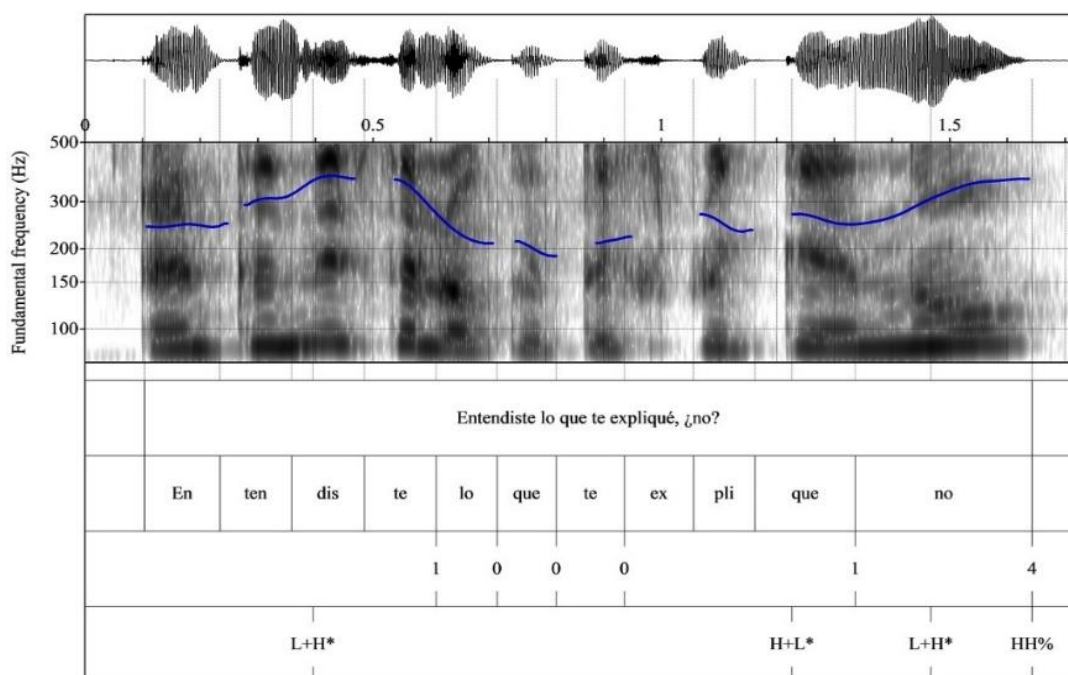
Figure 4.16: Waveform, spectrogram, and pitch contour for the information seeking tag-question *Enten<u>dis</u>te lo que te expli<u>qu</u>é ¿<u>no</u>?* 'You understood what I explained, didn't you?' produced with a combination of L+H* and H+L* PAs finishing with a HH%.

4.6.3.3 Persuasive tag-questions

On the other hand, Figure 4.17 shows a persuasive version of a tag-question where the participant was asked to imagine a situation in which he had to convince someone else about going to a concert. Despite having the same PA configuration pattern (L+H*, H*+L, L+H*) as the two previously mentioned tag-question subtypes, it includes a typical HH% boundary tone, as has been previously found in standard yes/no question statements. As can be observed, the pitch accents are realized in the accented syllables of the words *<u>va</u>mos* /ˈba.mos/ 'are going' *con<u>cier</u>to* /kon.ˈsieɾ.to/ 'concert', and *ya* /ˈʎa/ 'ok' in both prenuclear and nuclear positions.
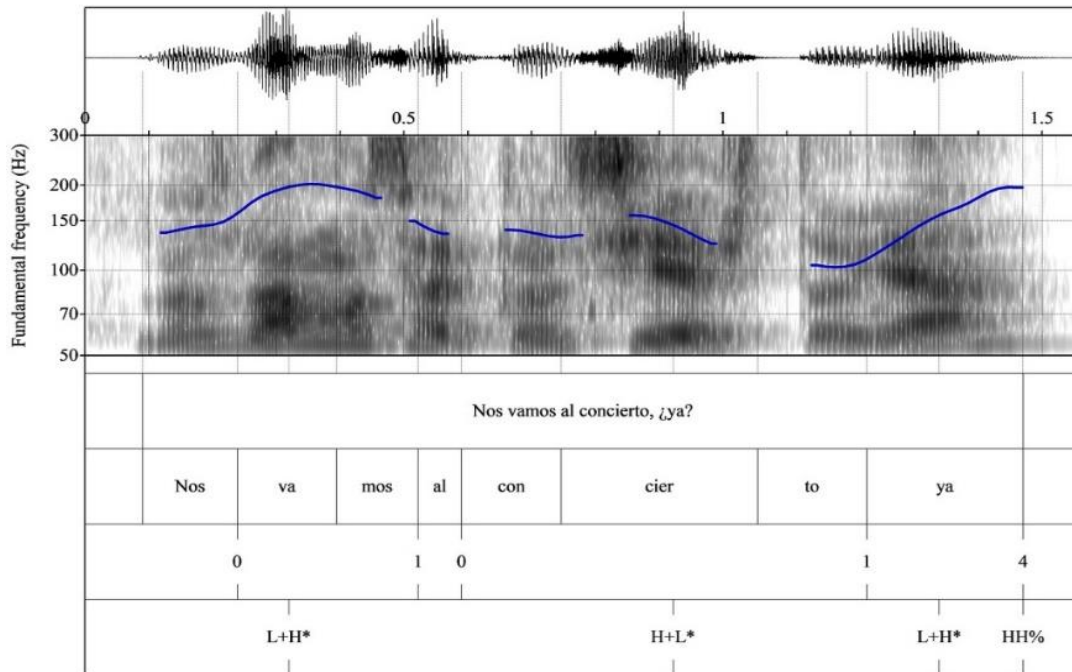
Figure 4.17: Waveform, spectrogram, and pitch contour for the persuasive tag-question *Nos vamos al concierto, ¿ya?* 'We are going to the concert, ok?' produced with a combination of both L+H* and H+L* PAs and finishing with a HH%.

4.7 Imperatives

4.7.1 Commands

Imperatives can be defined as a special type of statement mainly used to command or request something. 40 out of 50 tokens in the sample (80%) are orders or commands. In Figure 4.18, we find an imperative or command made up of three prosodic words and uttered by a female speaker in a context of annoyance. The f0 contour starts with a rise from under 300 Hz during the beginning of the first syllable in the commanding verb *baja* /ˈba.xa/ 'turn down' that reaches its peak on the posttonic syllable at about 400 Hz, hence it is labeled as a L+>H* pitch accent. The second accented word is *volumen* /bo.ˈlu.men/ 'volume', and it also bears the same L+>H* pitch

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accent that extends to the next syllable[36]. The last pitch accent in nuclear position appears as a fall from a H to a L tone or H+L* in nuclear position, as it would be expected for a declarative statement. The imperative ends in a low boundary tone, providing additional evidence that imperatives tend to carry the strongest, most prominent tone at the beginning of the utterance.
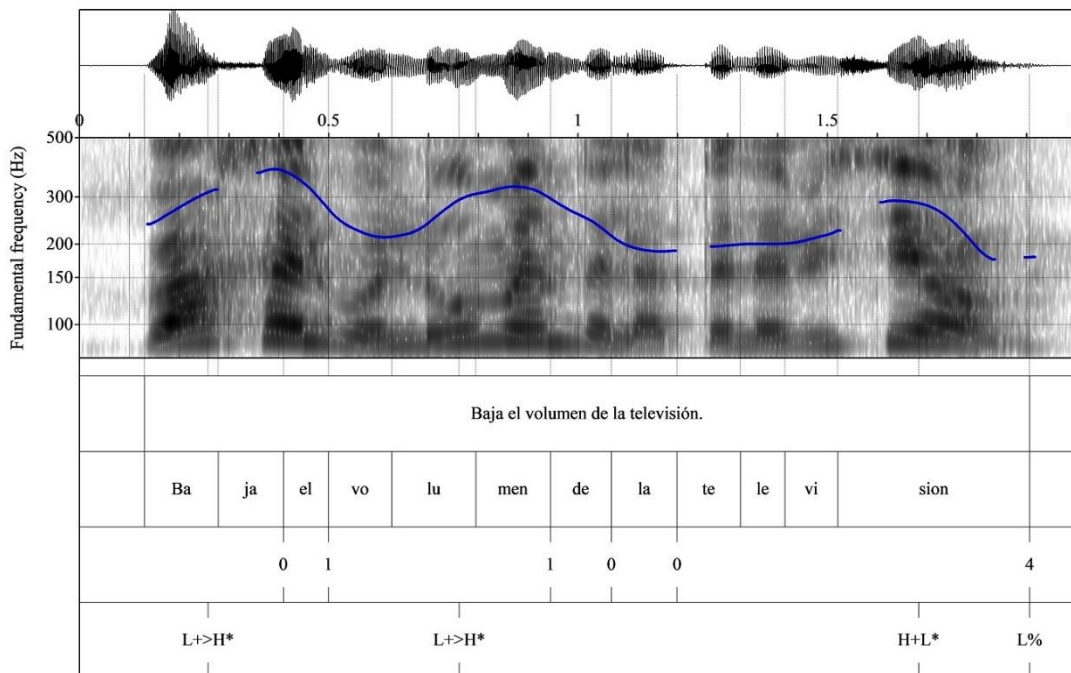
Figure 4.18: Waveform, spectrogram, and pitch contour for the commanding imperative *Baja el volumen de la televisión* 'Turn down volume of the television.' produced with two prenuclear L+>H* and a H+L* in nuclear position, finishing with a L%.

4.7.2 Requests

5 (10%) of the tokens were found to be imperative requests. In Cuencano Spanish, it is common to hear people soften a command by using "request intonation." An example of this is Figure 4.19 where a female participant is asking someone nicely to turn up the volume of the radio. In contrast with Figure 4.18, the speaker does not sound annoyed but requests the person to increase the volume of the device. This can be perceived by the substantially drop after the

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[36] Note the cross-linguistic use of vowel lengthening because of annoyance.

monotonal H* in the first word of the utterance *súbele*, /ˈsu.be.le/ "turn up", and the subsequent two L* pitch accents in both *volumen* /bo.ˈlu.men/ 'volume' and *radio* /ˈra.dio/ 'radio' that lead to L% BT to close the utterance. As the shape of the intonation contour appears flat after the first PA, it could be argued that this utterance gives the impression to be deaccented.
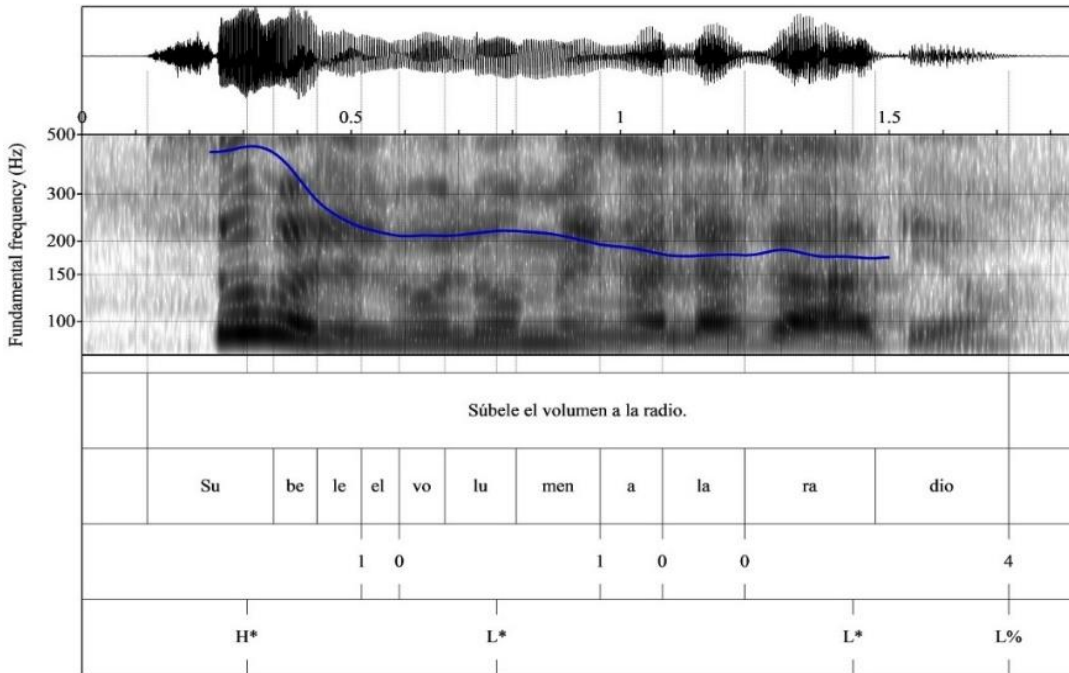
Figure 4.19: Waveform, spectrogram, and pitch contour for the imperative request *Súbele el volumen a la radio* 'Turn up the radio.' produced with a combination of H+L* and L* tones finishing with a low boundary tone.

4.7.3 Complaints

For negative imperatives (20/40%) there is not much difference in terms of the prosody used. The pitch contour in Figure 4.20, for instance, displays two slight rises or bitonal L+H* pitch accents in prenuclear and nuclear positions in the tonic syllables of *hagan* /ˈa.gan/ 'they make' and *ruido* [ˈrui.do] 'noise', notice that the negative particle *No* /ˈno/ 'no' does not bear a pitch accent. It must be observed that this is likely to occur because the emphasis is displaced from the adverb

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to the verb, as a result of complaining about the noise made. The decrease in the pitch frequency after the second PA concludes in a L% at the end of the utterance.
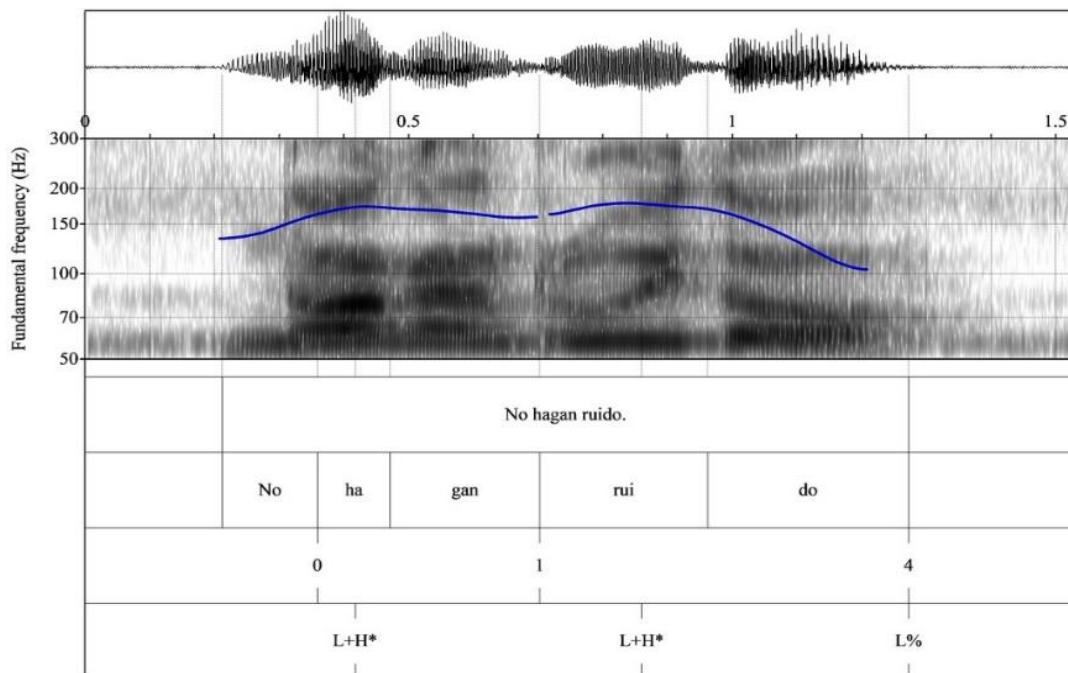
Figure 4.20: Waveform, spectrogram, and pitch contour for the negative imperative statement *No hagan ruido* 'Don't make noise.' produced with two L+H* tones and a L%.

Figure 4.21, however, represents an interesting instance of complaining expressed through an imperative. The speaker is clearly annoyed by another person's singing, and she orders them to stop. Only 5 tokens were found to be showing complain. The pitch contour starts with the negative adverb *no* /ˈno/ 'no' that does not bear a pitch accent even though it appears to be accented, then the pitch moves to a prominent emphatic L+^H* on the first lengthened vowel of *canten* /ˈkan.ten/ 'they sing'. The utterance ends in a L% as observed in standard imperatives.
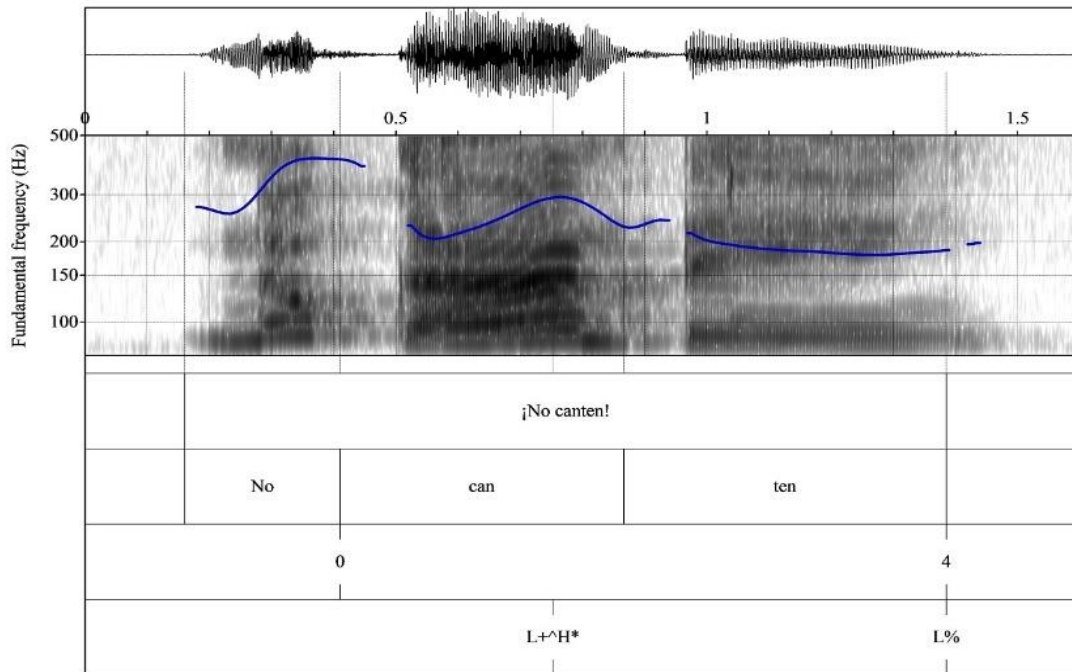
Figure 4.21: Waveform, spectrogram, and pitch contour for the imperative complain *¡No canten!* 'Don't sing!' produced with an emphatic L+^H* in nuclear position and finishing with a low boundary tone.

4.8 Vocatives

Upon examination of the vocative tokens in the data, I came to the conclusion that there is no distinctive variation in the intonational grammar for vocatives when compared to other utterance types. The final intonation of vocative sentences varies depending on the rest of the utterance coming either after or before the vocative portion. In other words, it can be argued that this type of utterance is one that can take any of the distinctive or stereotypical intonational grammars of the other types. However, because of semantic and structural reasons, it should be classified differently. It is important to notice also that the emphasis is often placed on the vocative word, which is always accented. These characteristics apply for every token in the sample.

In Figure 4.22, we have a vocative sentence produced by a female participant in the context of asking her partner to pass her a spoon. It can be observed how the first pitch accent is a minor rise or L+H* on the first syllable of the term of endearment *gordo* /ˈgoɾ.do/ 'fat', followed by a L- marking a pause after which a L+H* pitch accent is realized on *pásame* /ˈpa.sa.me/ 'pass me'. A third H+L* pitch accent occurs in nuclear position in *cuchara* /ku.ˈʧa.ɾa/ 'spoon' as the f0 line drops towards a L% at the end of the utterance.
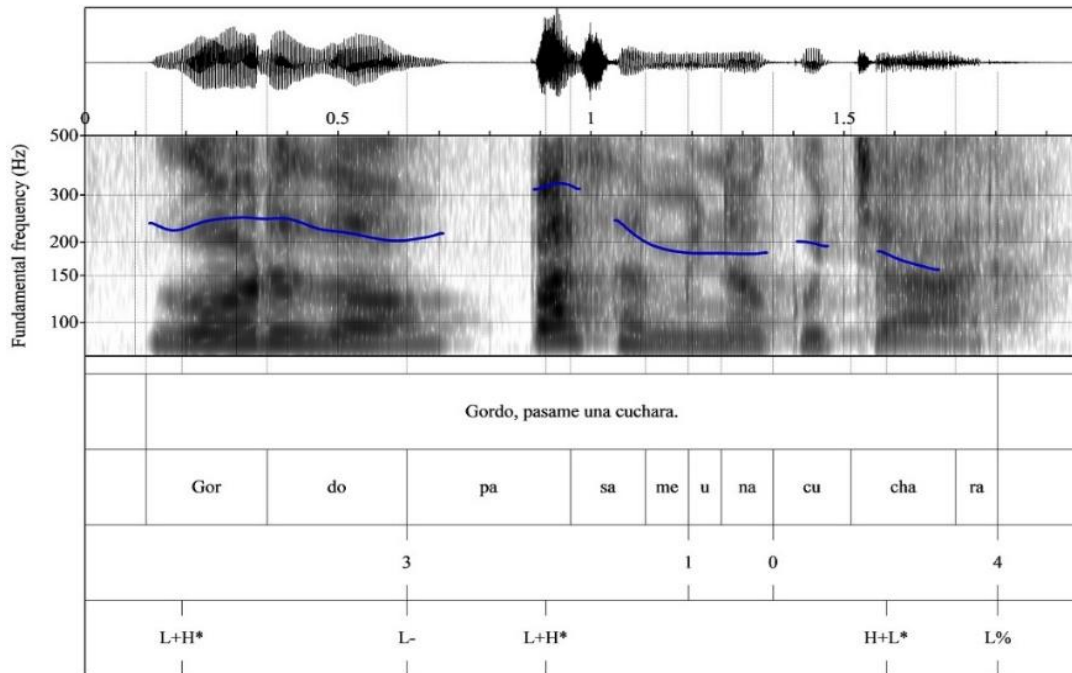
Figure 4.22: Waveform, spectrogram, and pitch contour for the vocative *Gordo, pásame una cuchara* 'Fat, pass me a spoon.' produced with a combination of L+H* and H+L* tones and a L- , finishing with a L%.

Conversely, the pitch contour in Figure 4.23 begins below 200 Hz and exhibits 4 L+H* pitch accents (3 prenuclear and 1 nuclear) realized on the underlined tonic syllables in the content words *Estás* /es.ˈtas/ 'are', *listo* /ˈlis.to/ 'ready', *jugar* /xu.ˈgaɾ/ 'play', and *campeón* /kam.ˈpe.on/ 'champ'. As can be observed in this example the vocative comes at the end of the utterance; however, the utterance itself is a question. Hence, the final boundary tone being in a relatively high position within the male speaker's vocal range.
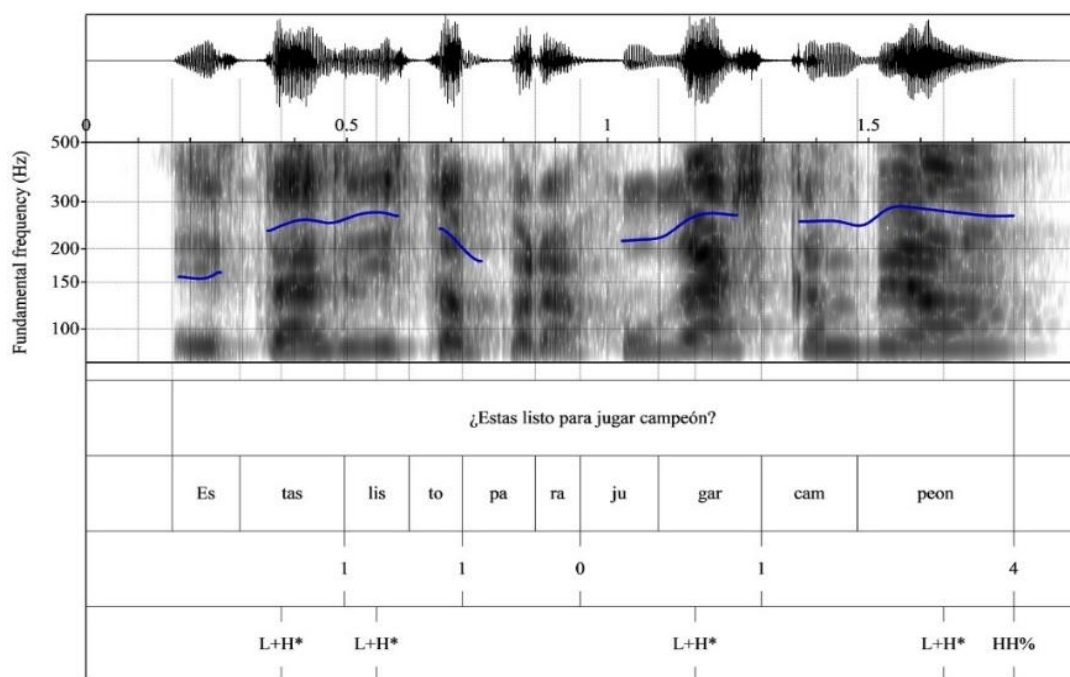
Figure 4.23: Waveform, spectrogram, and pitch contour for the vocative question *¿Estás listo para jugar campeón?* 'Are you ready to play, champ?' produced with four L+H* and finishing with a HH%.

The third example in Figure 4.24 is interesting in that it is a vocative containing only one word 'Angie' /ˈandʒi/ with one L+H* pitch accent on its accented syllable. Although the posttonic syllable seems to be accented as well, it is most likely the prolongation of the high vowel rather than a secondary pitch accent. This is logical if we consider that the male speaker was given the context of seeing his friend from a distance and shouting to her. The utterance ends in a L% in agreement with previous findings on Tucuman Spanish intonation (Terán & Ortega-Llebaria, 2017)[37]. It can be concluded by observing the pitch accent pattern realized on the three vocative utterances that they follow the cross-linguistic tendency to bear bitonal L+H* pitch accents. This

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[37] It must be noted that the SP_ToBI website has some examples of vocatives and other utterances presenting a falling boundary tone or HL% not included in this thesis. This is so because BTs in this work have been considered as not been affiliated with words but with the edge of the IP. However, this labeling is an alternative to the one employed in the present study.

may be due to their inherent grammatical function associated with acquiring someone's attention, which is usually accomplished by rising the pitch of the voice.
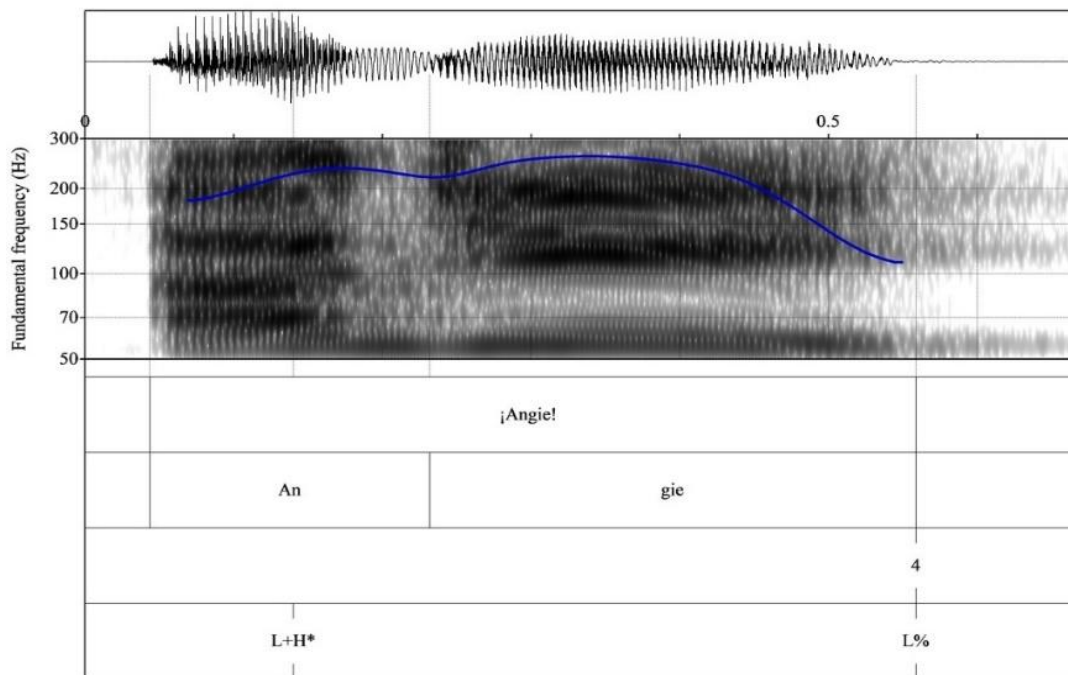
Figure 4.24: Waveform, spectrogram, and pitch contour for the vocative *¡Angie!* produced with an emphatic L+H* in nuclear position and finishing with a low boundary tone.

4.9 Exclamative Statements

Exclamative sentences are typically found with emphasis on one or more words, although they do not necessarily end with rising intonation. This is observed in Figure 4.25 where both the adjective *larga* /ˈlaɾ.ga/ 'long' and the verb *estuvo* /es.ˈtu.bo/ 'was' are emphasized with a L+H* and a L+¡H pitch accents in prenuclear position. The third PW shows a L* PA in nuclear position on the accented syllable of *conferencia* /kon.fe.ˈɾen.sia/ 'conference' that continues to a L%. It can also be argued that this utterance is deaccented after the final emphatic PA. 43 out of 50 tokens (86%) exhibit this tonal characteristic and final intonation.
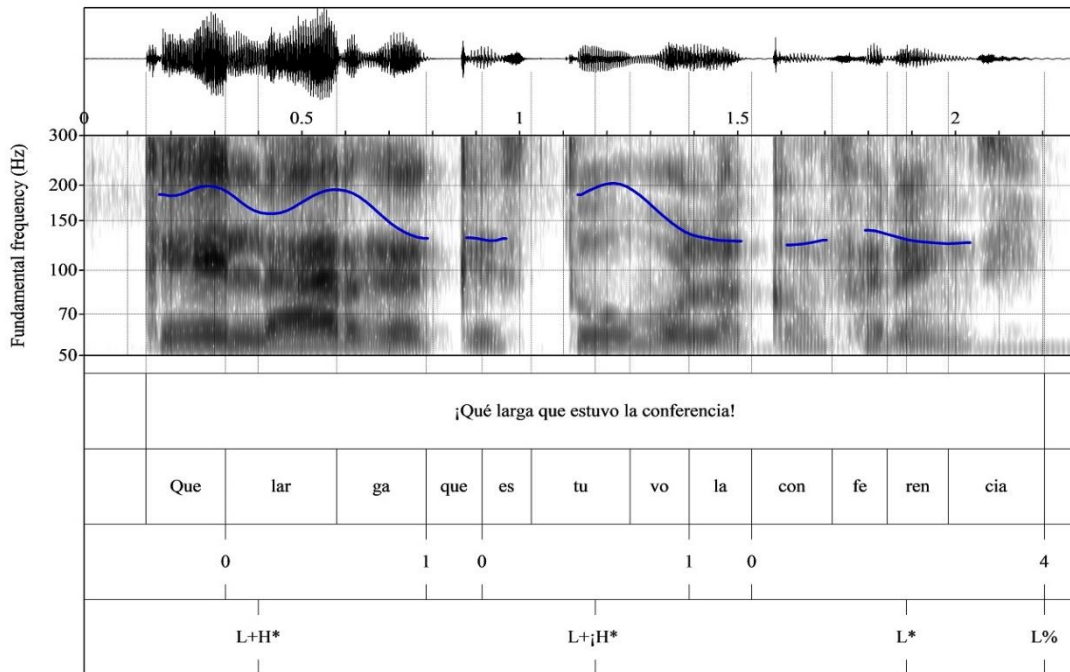
Figure 4.25: Waveform, spectrogram, and pitch contour for the exclamative *¡Qué larga que estuvo la conferencia!* 'What a lengthy conference!' produced with a prenuclear L+¡H* PA and a L* in nuclear position finishing with a L%.

The example token in Figure 4.26 shows a different situation. There is a substantial emphatic rise in one word with a L+H* pitch accent. This PA is located in nuclear position giving the entire utterance a question-like BT with rising intonation (HH%), which would be expected from an exclamative utterance with a surprisal pragmatic context. It must be noted, however, that most of the tokens in the data have final falling intonation like statements. Moreover, the utterance in question is long enough to include five additional bitonal pitch accents in prenuclear positions realized on each of its content words: *van* /ˈban/ 'they are going to' (L+H*), *pagar* /pa.ˈgaɾ/ 'pay' (H+L*), *mil* /ˈmil/ 'thousand' (L+H*), *dólares* /ˈdo.la.ɾes/ 'dollars' (L+¡H*). A total of 7 out of 50 tokens (14%) were found to present these tonal characteristics and final intonation.
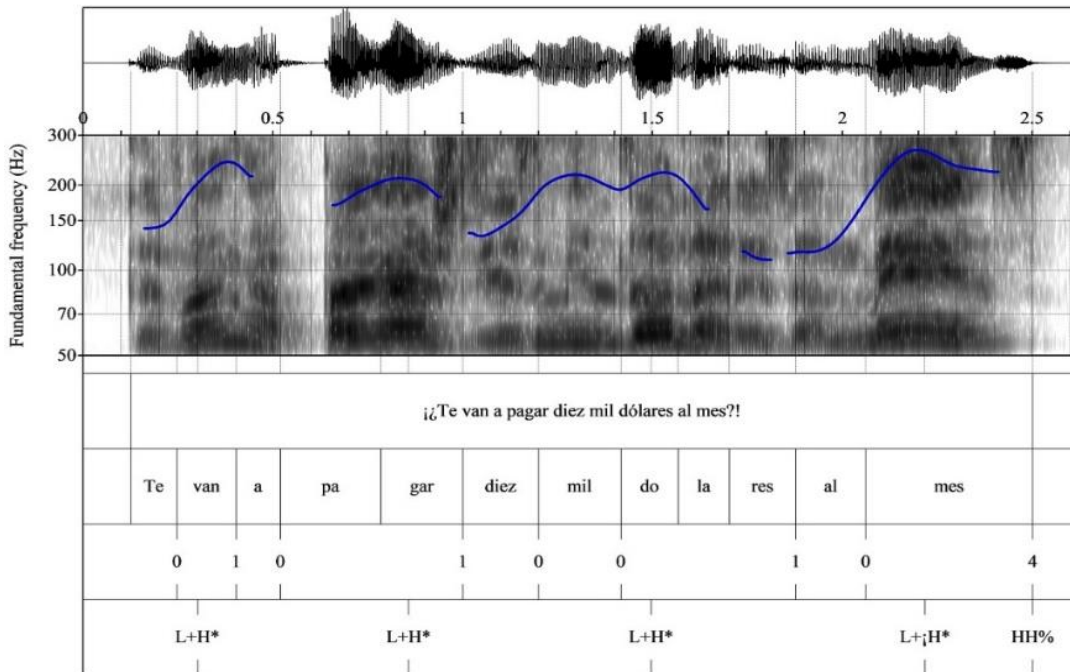
Figure 4.26: Waveform, spectrogram, and pitch contour for the exclamative surprisal *¡¿Te van a pagar diez mil dólares al mes?!* 'They are going to pay you ten thousand dollars a month?!' produced with L+H* pitch accents in prenuclear and a L+¡H* nuclear positions and finishing with a HH%.

4.10 Interjections

The most common interjections in Cuencano Spanish are expressions that have been borrowed from Quichua. They can be uttered either in isolation or accompanied by other words. Only one of these expressions is required to represent the whole interjection statement and convey its meaning. These types of utterances tend to carry emotion due to the context in which they are produced. Two examples illustrating this are presented in Figure 4.27 and Figure 4.28 that display two of the common Quichua interjections used frequently by Cuencanos in everyday speech. Notice that the expression *achachay* /a.ʧa.ˈʧai̯/ 'It's so cold' has a slightly falling tone H+L* on its accented syllable. Also, some degree of creak on the vowels following the /ʧ/'s can be seen in the image, due to the fact that the participant is complaining about how cold she feels, which

conforms to the most common usage of this expression. The interjection *asta<u>ray</u>* /as.ta.ˈɾai̯/ 'used to complain when touching something hot that burns you', on the other hand, is accented on its third syllable and bears a L+H* pitch accent. Both expressions end with a L% in agreement with a total of 43 tokens (86%); only 7 tokens (14%) show final rising intonation.
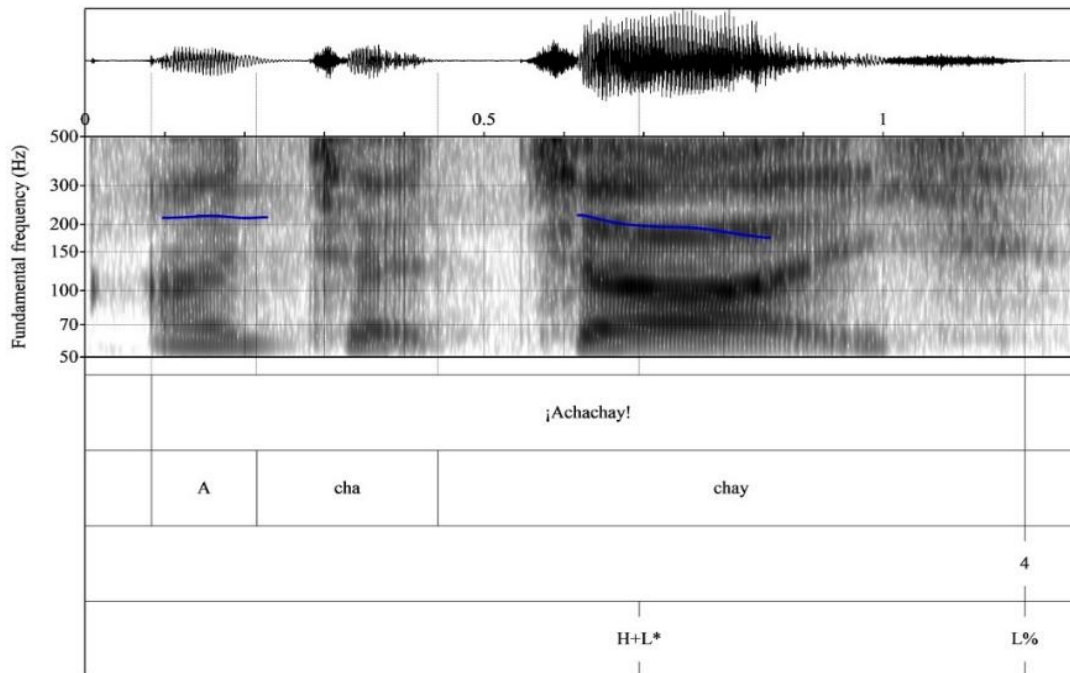
Figure 4.27: Waveform, spectrogram, and pitch contour for the interjection *¡Achachay!* 'It's so cold!' produced with a H+L* pitch accent in nuclear position and finishing with a L%.
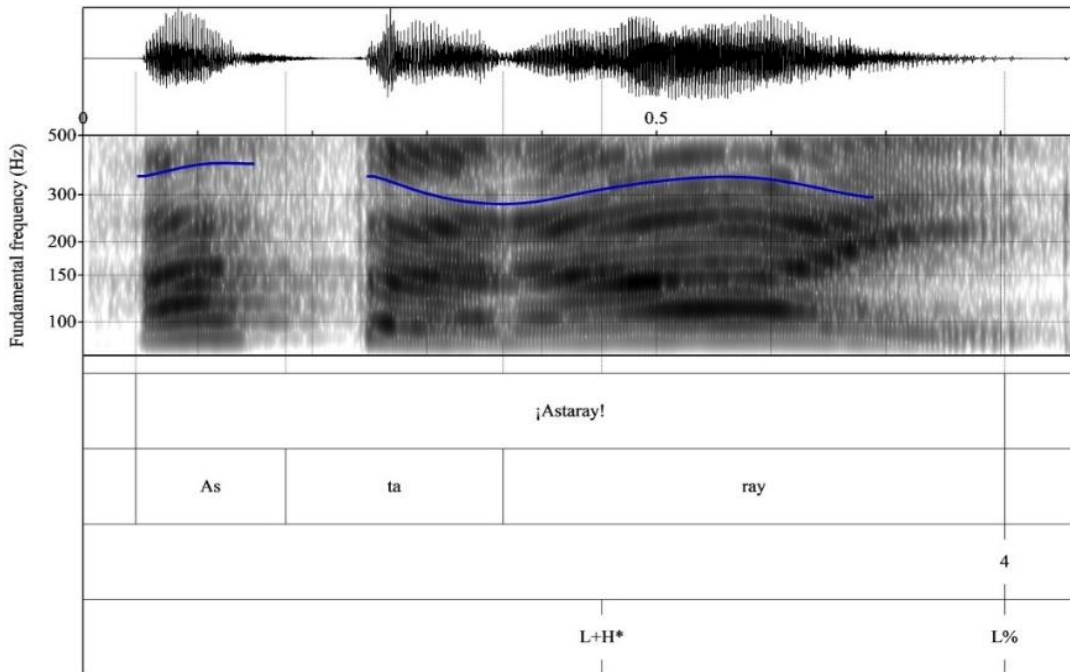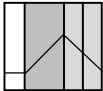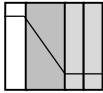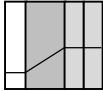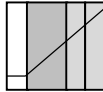
Figure 4.28: Waveform, spectrogram, and pitch contour for the interjection *¡Astaray!* (used to complain when someone touches something hot and burns him/herself) produced with a slight L+H* in nuclear position and finishing with a low boundary tone.

Table 4.3 below shows the common nuclear configurations[38] found in this study of Cuencano Spanish intonation.

Table 4.3: Common nuclear configurations in Cuencano Spanish based on SP_ToBI descriptions but adapted to Cuencano Spanish (Aguilar et al., 2009).

Common Nuclear Configurations in Cuencano Spanish		
L* L%	Declaratives Imperatives Information seeking wh-questions Conditionals Vocatives Narrow focus statements Negative statements	

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[38] By nuclear configurations we refer to the combination of the nuclear pitch accent and the last boundary tone or intonational phrase boundary tone.

L+H* L%	Declaratives Imperatives Information seeking wh-questions Conditionals Vocatives Lists Exclamative statement Negative statements Vocatives Information seeking wh-questions	
H+L* L%	Declaratives Imperatives Information seeking wh-questions. Conditionals Vocatives Narrow focus statements	
L+H* M%	Exclamative statements Declaratives Imperatives Information seeking wh-questions. Vocatives	
L+H* HH%	Information and confirmation seeking Yes-no questions Echo wh-questions Exclamative statements Tag-questions Vocatives	

5. DISCUSSION

5.1 Conclusions

The results of the analysis of Cuencano Spanish intonation carried out on this thesis project—documented and summarized in the results section and tables 4.1, 4.2, 4.3—support the findings of previous research on Ecuadorian Spanish Andean intonation (O'Rourke, 2010), Spanish intonation (Beckman et al., 2002), Catalan intonation (Prieto, 2014), and Media Lengua patterns (Stewart, 2015). Almost every pitch accent found in the dataset was already documented in these previous works with the exception of the emphatic L+^H* PA, which had not been found in any other varieties of Ecuadorian Spanish dialects up to this point, nor had it been documented and described in detail as in this thesis. Another important finding on the intonation of Cuencano Spanish is the high frequency of the L+H* PA in almost every token in the sample. This finding in and of itself suggests that the intonation of the Cuencano dialect does have a distinctively marked sinusoidal, melodic characteristic to it, which matches the impressionistic descriptions in (Encalada, 1998).

It can be concluded, therefore, that both the emphatic L+^H* PA and the high frequency ratio of the L+H* PA—which is likely to originate from the tendency Cuencanos have to add a variety of tonal emphasis to their speech—are key prosodic features that make Cuencano Spanish intonation substantially different from that of the other Ecuadorian Spanish varieties and define the *Cantado Cuencano*. In response to research question 2, I would also argue that both this emphatic PA and the high frequency usage of the L+H* rising tone might be an innovation resulting from the influence that Indigenous languages, including Quichua and Cañari, had on the Cuencano dialect. As an impressionistic observation supporting this claim, it can be added that people in Cuenca and its surroundings are more likely to lengthen their vowels and emphasize them, which can be related to what has been described as *esdrujulización*, and is what produces the L+^H* found in the data. These distinctively rising and falling intonational patterns

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in their speech are easy to spot and make their speech sound more mellow in comparison to people from other regions in the country.

Other pitch accents are also present in the sample; however, they are not as predominant as the L+H* rise, which is pervasive in almost every single token in the 11 utterance types analyzed in this work. Intermediate phrases, on the other hand, were not registered with the same frequency as in previous analyses of Ecuadorian Spanish, since it was found that some of the criteria used for phrasing in terms of prosodic words, intermediate phrases, and intonational phrases in previous works was superfluous when applied to the dataset analyzed in this thesis. Therefore, these aspects were modified by the omission of level 2 (rarely used even in previous works), not overusing level 3, and not using level 4 within utterances, which was convenient because there weren't disruptions in the tonal flow that required its usage. These modifications correspond more naturally with the sample; hence, not affecting the accuracy and reliability of the analysis. Intermediate phrases were common, however, in conditionals, vocatives, and lists.

Furthermore, the sample presents the same level of variation in the realization of the final IPs compared to other varieties of Ecuadorian Andean Spanish. For instance, nuclear configurations were found to comprise a mixture of L*, H*, L+H*, H+L* pitch accents in nuclear position plus L%, HH%, and M% boundary tones, in order of predominance. The only difference in comparison with other analysis is that the HL% boundary tone was not included in this thesis because it was deemed unnecessarily impractical, since the H tone at the beginning of this pattern was usually part of the nuclear L+H* pitch accent or was just deaccented and part of the transition towards the final L% boundary tone.

In regard to the intonational grammar of the different types of utterances in the dataset, broad/narrow statements including positive/negative declarative statements, conditionals, and lists all have in common that they end in falling intonation typically with a L* or H+L* PA in nuclear position. Parts of these utterances can also be emphasized depending on the pragmatic message the speaker wants to convey. Contrarily, questions display more diverse intonation patterns ranging from the standard rising patterns at the end of yes/no questions to the falling pattern characteristic of wh-questions that also present rising patterns when they are formulated as Echo

questions. Tag-questions in Cuencano Spanish were found to have a mix of both rising and falling intonation patterns. Imperatives have statement-like intonation at the end of the utterance and carry emotion expressed through emphasis usually at the beginning of the utterance. No substantial difference was found between the final intonation patterns of positive and negative imperatives. Vocatives also present both rising and falling boundary tones, except when found alone where they are characterized by their dropping final intonational BTs. In regard to exclamative statements and interjections, both of these utterance types are produced in similar contexts in which the expression of emotion plays a big role; nevertheless, they usually exhibit final falling intonational patterns, with the exception of exclamative statements of the surprisal type which tend to have rising final BTs.

The further analysis of suprasegmental material provided in this work supports the previous impressionistic claims found in (Candau, 1970; Encalada, 1998, 2016, 2018; Icaza, 2007; Mateus, 1953; Vásquez, 2007), and the perception of Cuencanos and the vast majority of Ecuadorians, who state that Cuencano Spanish clearly distinguishes itself from other varieties of Ecuadorian Spanish because of its highly marked intonation. As mentioned before, this may be reflected in the highly prevalent presence of rising and falling pitch movements, such as L+H* and H+L* bitonal pitch accents in both prenuclear and nuclear positions, which shows a tendency for the speakers to frequently go from a low to a high tone multiple times within the utterance. This can be related to the predominance of the L+H* pitch accent in Media Lengua as has been described in Stewart (2015), which may have a relation with Quichua intonation. This fact may also contribute to reaffirm the claim postulated by Encalada (2016) that Cuencano Spanish intonation is likely to be influenced by Quichua and Cañari.

Encalada (2016) makes reference to the accent characteristics of Indigenous people speaking Spanish in popular locations in the city of Cuenca, such as the markets. Their speech has been impressionistically described as singing by the author, as he poses that they have the stereotypical Cuencano accent. Furthermore, Encalada (2016) explains that it is rather difficult to trace back the intonation of Cuencano Spanish to an already extinguished autochthonous Cañari language.

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In regard to previous research conducted on other varieties of Ecuadorian Andean Spanish intonation, particularly O'Rourke (2010) study of Quiteño Spanish, it can be observed that both dialects share some common intonation patterns as can be noticed by comparing the PAs and BTs inventories provided in this work with those found in O'Rourke (2010). This suggests that they might have similar influences. However, the intonation patterns in Cuencano Spanish show more fluctuation and pitch movement as well as emphasis and vowel lengthening.

In summary, the results of this research project support the previously mentioned impressionistic observations about the *Cantado Cuencano* 'Cuencano singing'. They also provide a dialectal separation line with respect to other Spanish dialects.

5.2 Limitations

Future research on topics such as *esdrujulizacion* or accent retrocession in relation to Ecuadorian Andean Indigenous languages and Colonial Ecuadorian Spanish is required. This research might help clarify whether Quiteño Spanish, Cuencano Spanish, and other Ecuadorian Andean Spanish dialects share some phonological and intonational features as a result of the influence of similar Indigenous language substrates. At the same time, it can also help explain why their accents sound substantially different when compared to each other.

Additional research into the intonation of Ecuadorian Spanish varieties compared to that of local Indigenous languages is needed to elucidate the similarities and differences between the diversity of Ecuadorian Andean Spanish accents. This might help add more information about the origins of the Ecuadorian Cuencano Spanish accent.

Furthermore, it might be interesting to carry out a future study including a wider variety of demographic variables, as well as other categories of utterances with additional phrasing and varied semantics. This can provide more evidence to reaffirm or refute the results found in this study.

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