

## The Intonation of the Left Periphery: A Matter of Pragmatics or Syntax?

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### Abstract

This chapter investigates the intonation of the left periphery, and its relationship with discourse and syntax. While some authors hypothesize that intonational patterns align with discourse functions (Bianchi and Frascarelli 2010; Frascarelli and Hinterhölzl 2007), others argue that intonational patterns are correlated with different types of constructions (Feldhausen 2016). In order to solve whether discourse or syntax predicts intonation in the left periphery, 12 participants completed a scripted production task (based on Feldhausen's 2016). Two syntactic constructions (focus fronting (FF) and clitic-doubled left dislocation (CLLD)) and two discourse functions (contrast and familiarity) were combined into three conditions: 1) Contrastive-FF, 2) contrastive-CLLD, and 3) familiar-CLLD. Results show that the overall intonational pattern of the left periphery aligns to construction type, with FF presenting one nuclear configuration (L+H\* L- no-pause) and CLLD presenting a different one (L+H\* !H no-pause). These findings are consistent with the intonation-construction hypothesis (Feldhausen), and challenges the intonation-discourse hypothesis (Bianchi and Frascarelli; Frascarelli and Hinterhölzl).

**Keywords:** intonation, syntax, discourse, focus fronting, clitic-doubled left dislocation

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The goal of this chapter is to investigate the interface between different language domains. More concretely, the focus of this work is to learn how (and if) discourse, syntax, and intonation act together. A perfect test case to test this interaction of intonation and discourse and/or syntax is the left periphery of the sentence. There is a large amount of literature about the left periphery, but evidence seems contradictory. First, let us take a look at the puzzle used in this work for experimental purposes. The constructions in examples (1) and (2) are instances of focus fronting (FF) and clitic-doubled left dislocation (CLLD) respectively. Both constructions involve the fronting of the constituent *A Pedro* ‘Pedro.’ CLLD is doubled with a clitic-pronoun, which is not the case for FF.

- While FF must be contrastive, CLLD can be both contrastive and familiar (based on Frascarelli and Hinterhölzl (F&H 2007), see section 2). Therefore, the possible discourse-syntax combinations that I consider here are contrastive-FF, contrastive-CLLD, and familiar-CLLD. This chapter intends to find out whether intonational patterns align with discourse function (**contrastive-FF = contrastive-**

CLLD  $\neq$  **familiar-CLLD**) or with construction type (contrastive-**FF**  $\neq$  contrastive-**CLLD** = familiar-**CLLD**).

On the one hand, F&H (2007) and Bianchi and Frascarelli (B&F 2010) claim that there is a correlation between intonation and discourse function. This entails that contrastive constituents – be they dislocated or focus-fronted – are predicted to be produced with the same pitch accent (see section 3.1.), while constituents whose discourse function is that of being familiar topic would present a different pitch accent. On the other hand, Feldhausen (2016) found evidence of a correlation between intonation (see section 3.1.) and construction type. In the case of this chapter, FF would present an intonational pattern, while CLLD would be produced with a different one. In a nutshell, these two contradictory predictions could be summarized as presented in (3):

(3) **Discursive Prediction:** contrastive-FF = contrastive-CLLD  $\neq$  familiar-CLLD

**Syntactic Prediction:** contrastive-FF  $\neq$  contrastive-CLLD = familiar-CLLD

Which of the two possible outputs presented in the previous paragraph reflects what speakers actually do? In order to solve this puzzle, 12 Spanish monolingual participants completed a scripted production task (following Feldhausen 2016). Three conditions were included in the experiment, following what stated above: 1) Contrastive-FF, 2) contrastive-CLLD, and 3) familiar-CLLD. Results show that the overall intonational pattern of the left periphery aligns to construction type, with FF presenting one nuclear configuration (L+H\* L- no-pause) and CLLD presenting a different one (L+H\* !H- no-pause). These findings support the syntactic prediction (Feldhausen) and challenge the discursive one (B&F 2010; F&H 2007).

The rest of the chapter is outlined as follows: Section 2 presents the syntactic/pragmatic puzzle in more detail. Section 3 presents the framework that will be used for analysis, further

explains the two contradictory hypotheses, and formalizes the research question and predictions of the study. Section 4 details the methodology used to try to answer the research question. Section 5 presents the results, which are discussed in section 6. The limitations to the study and some ideas for further research are presented in section 7. Lastly, the main conclusions are summarized in section 8.

## 2. The Test Case: The Spanish Left Periphery

As briefly discussed in section 1, the test case for this study is the Spanish left periphery. More concretely, the empirical puzzle is a combination of two constructions, FF/CLLD, and two discursive conditions, contrast/familiarity. Let us take a look at these two distinctions in more detail.

First, let us look at the FF/CLLD distinction following López's (2009) "brief description of the database" (p.3-11). Let us start with the example in (4).

- (4) Veo [direct-object a Pedro] en el parque. (canonical sentence)  
 see.1<sup>st</sup> [DOM Pedro].ACC in the park  
*I see Pedro in the park.*

This utterance presents the Spanish canonical word order SVO. First, a null-subject *yo* 'I' can be inferred due to the conjugation of the verb in first person singular. Second, we have the verb *veo* 'I see'. Third, there is the direct object *a Pedro*, which includes a direct object marker (DOM) *a*, marking *Pedro* as a human constituent with accusative case. Lastly, there is an adverbial phrase *en el parque* "in the park." Let us see now examples (1) and (2), repeated here as (5) and (6), which are instances of FF and CLLD respectively.

(5) [FF A Pedro] veo. (FF)

[DOM Pedro].ACC see.1<sup>st</sup>

*I see Pedro in the park.*

(6) [CLLD A Pedro] [clitic-doubling lo] veo en el parque<sup>1</sup>. (CLLD)

[DOM Pedro].ACC CL.ACC see.1<sup>st</sup> in the park

*I see Pedro in the park.*

The only difference between (5-6) and (4) is that the direct object *a Pedro* has been fronted. Note that the DOM *a* stays in both in FF and CLLD, showing that both constituents keep their accusative case. A CLLD-ed constituent is doubled with a clitic-pronoun – *lo* –, matching the fronted constituent in person (3rd), number (singular), gender (masculine), and case (accusative). As López points out, clitic-doubling is the one characteristic that distinguishes CLLD from FF.

Second, let us look at the contrast/familiarity distinction, following F&H's (2007) model of the left periphery. On the one hand, FF utterances are necessarily contrastive (F&H; López 2009). In example (7), the fronted constituent *a mis primos* in the answer contrasts with the antecedent *a tus amigos* in the question. In López's words, the response opens up domains of quantification, which is resolved by the FF itself.

(7) Contrastive-FF

a. ¿Has visto [ANTECEDENT a tus amigos]?

Have.3<sup>rd</sup> see.part DOM your friends

*Have you seen your friends?*

<sup>1</sup> In (6), FF does not include the adverbial *en el parque* for reasons explained below.

b. ¡No! [Contrastive-FFA mis primos] he visto, no a mis amigos.

NEG [DOM my cousins].ACC have.1<sup>st</sup> see.part NEG DOM my friends

*No! I have seen my cousins, not my friends.*

On the other hand, CLLD can be both contrastive and familiar (F&H). When contrastive, CLLD also opens up domains of quantification within the set of possible answers from the antecedent (López), and creates pairs of contrast (F&H) in the response. In example (8), the dislocated constituents *a Paco* and *a Pedro* close a domain of quantification within the set *a tus amigos* in the question, and create a contrastive pair between them.

#### (8) Contrastive-CLLD

a. ¿Has visto [ANTECEDENTA tus amigos]?

Have.3<sup>rd</sup> see.part DOM your friend

*Have you seen your friends?*

b. ¡Sí! [Contrastive-CLLDA Paco] [clitic-doublinglo] he visto en Madrid,

Yes [DOM Paco].ACC CL.ACC have.1<sup>st</sup> see.part in Madrid

y [Contrastive-CLLDA Pedro] en Barcelona.

and DOM Pedro in Barcelona.

*Yes! I have seen Paco in Madrid, and Pedro in Barcelona.*

Finally, when a CLLD-ed constituent is familiar, it does not present a contrastive pair<sup>2</sup>. In example (9), the dislocated constituent *a mis amigos* does not contrast with the antecedent *a tus amigos* in the question. Using F&H's terminology, this condition would be considered *familiar*.

(9) Familiar-CLLD

a. ¿Has visto [ANTECEDENTA tus amigos]?

Have.3<sup>rd</sup> see.part DOM your friends

*Have you seen your friends?*

b. ¡Sí! [Familiar-CLLD A mis amigos] [clitic-doubling los] he visto en Madrid.

Yes [DOM my friends].ACC CL.ACC have.1<sup>st</sup> see.part in Madrid

*Yes! I have seen my friends in Madrid.*

In sum, the test case contains three possible construction/discourse combinations: Contrastive-FF, contrastive-CLLD, and familiar-CLLD. The open question for the purposes of this chapter is how intonation patterns: Contrastive vs. familiar (regardless of construction) or FF vs. CLLD (regardless of discourse function).

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<sup>2</sup> According to López (2009), CLLD must always be considered contrastive. The author argues that CLLD always opens up domains of quantification, even if it is closed with the exact lexical item from the antecedent. However, this is not the way it is understood by F&H, 2007 and B&F, 2010. In fact, this latest paper makes direct reference to Romance CLLD as being both contrastive and familiar (a C-topic vs. G-topic, in the authors' nomenclature).

The present section reviews previous literature on the intonation of the left periphery, with the goal of answering to the question stated at the very end of Section 2: Does the intonation of the left periphery pattern with the type of construction in which a constituent appears, or with the discourse function that constituent fulfills? The rest of section 3 presents a brief introduction to intonation analysis (Section 3.1.), reviews hypotheses and data in supporting both a pragmatic (sub-section 3.2.) and a syntactic (sub-section 3.3.) approach to the intonation of the left periphery, and formalizes the research questions and predictions (sub-section 3.4.) of the study.

### 3.1. *A Brief Introduction to Sp\_ToBI*

Considering that the goal of this chapter is to study the intonation of the left periphery, it is necessary to establish an intonational framework of analysis. In this sub-section, I provide a brief introduction to the most updated version for Spanish of the Tone and Break Indices transcription system (Sp\_ToBI; I follow its most updated version in Hualde and Prieto 2015). Explicitly or implicitly, this is the system assumed by F&H (2007), B&F (2010), and Feldhausen (2016), which are the most relevant articles for the purposes of this chapter.

This sub-section provides an overview of the concepts of 1) prosodic phrase and 2) nuclear configuration – boundary tone and pitch accent – since it is the relevant point for the purposes of this chapter. First, prosodic phrases can be further sub-divided into intonational phrases (IP) and intermediate phrases (ip) (Feldhausen 2016). Second, the concept of nuclear configuration is comprised of two points: On the one hand, a boundary tone is “movement aligned with the limits of melodic units” (Estebas-Vilaplana and Prieto 2009, p. 267, my translation). On the other hand, a pitch accent is a “movement located around a tonic syllable” (Estebas-Vilaplana and Prieto 2009, p. 267, my translation). Let us see these concepts with the concrete example in (10):



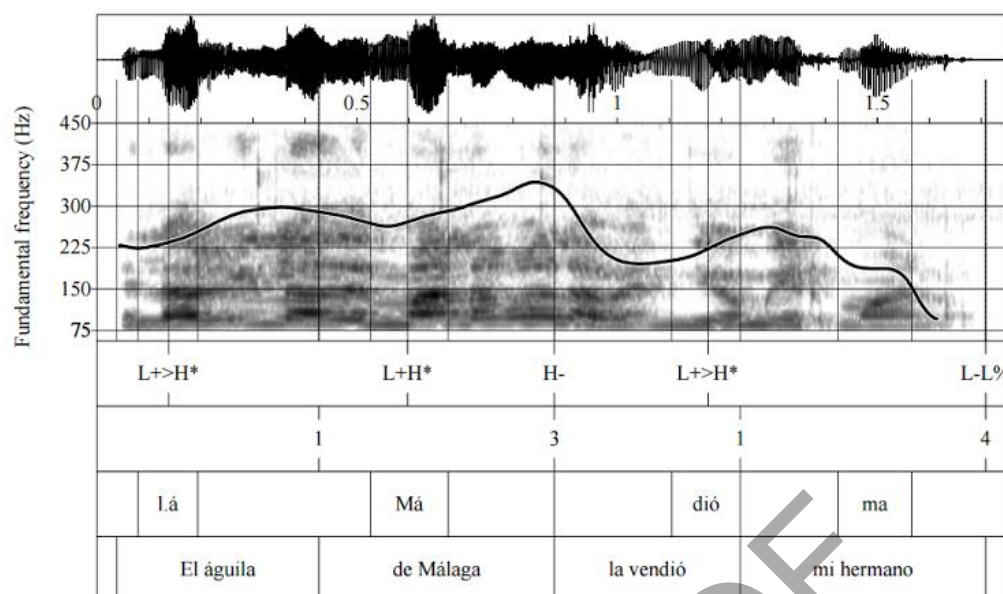
(10) [ [A  $\acute{A}n_{\text{pitch-accent}}\text{gela}_{\text{boundary-tone}}$ ]ip no la he visto]IP

The complete utterance *A Ángela no la he visto* ‘I haven’t seen Angela’ forms its own IP. Within the IP, the fronted constituent *A Ángela* forms its own ip (Feldhausen). The last tone of the ip, corresponding to the syllable of the ip *la* in *Ángela*, is the boundary tone. Further, the tone corresponding to the last accented syllable *Án* in *Ángela* is the pitch accent<sup>3</sup>.

Once the location of the pitch accent and the boundary tone of the ip are identified, Sp\_ToBI provides a transcription system. Two letters are used to describe pitch: L (low) and H (high). Also, the letters L and H can be combined to describe rises or falls in pitch (e.g. L+H, H+L, etc.). In addition, the symbols \* and – indicate pitch accent and intermediate boundary tone respectively. For example, L+H\* indicates a raising pitch accent, L\*+H indicates a low pitch accent that raises on the following syllable, H- indicates a high boundary tone, etc. Another less common symbols are !, meaning “sustained” (Feldhausen 2016, p. 163), and <, meaning “delayed.” For example, !H- indicates that the high boundary tone does not keep raising; L+<H\* indicates that the high peak of the raising pitch accent takes place beyond the syllable end frontier. Let us see a coding example:

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<sup>3</sup> The last syllable and accented syllable of the IP also have their own pitch accent and boundary tone (*vis* and *to* in *visto*), but I will focus on the fronted ip as they are the relevant features for this chapter.



**Figure 1.** Sample intonational transcription of CLLD (Feldhausen 2016, Figure 4, p. 27).

Within *El Águila de Málaga la vendió mi hermano* ‘My brother sold the eagle from Malaga,’ *El Águila de Málaga* is a CLLD-ed constituent. Within that constituent, *-ga* correspond to the boundary tone, and *Má* corresponds to the pitch accent. The boundary tone is labeled as H- since the intonation of the end of the CLLD-ed constituent ends at a high pitch. The pitch accent is labeled as L+H\* since pitch raises within the *Má* syllable. The exact coding procedure that is used in this chapter is further developed in sub-section 4.5.

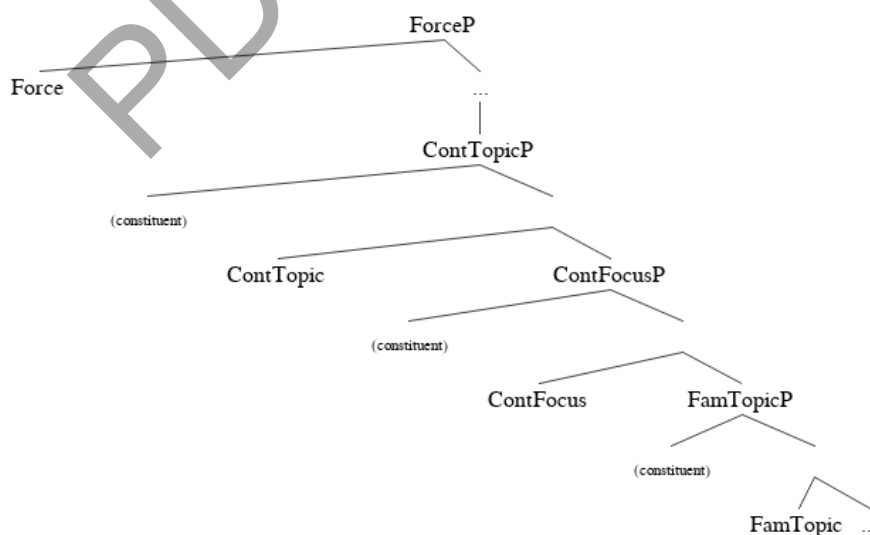
### 3.2. A Pragmatic Approach to Intonation

The first hypothesis posits that the intonation of the left periphery patterns according to the discourse function that a fronted constituent fulfills, based on F&H (2007) and B&F (2010). For the purposes of this chapter, this approach predicts that contrastive constituents (both topic and focus) in the left periphery should present the same pitch accent, different than the one from familiar

constituents. According to F&H, “the tonal event characterizing contrastive topics is exactly the same as the one for (contrastive) foci in Italian (cf. Frascarelli 2004) and other languages (Frota 2000, D’Imperio 2002)” (p. 100). Concretely, F&H argue that the pitch accents are H\* for contrastive constituents and L\* for familiar constituents in Italian. For German, they claim that the pitch accents are L\*+H and L\*, respectively. The authors suggest that the particular pitch accent found for each discourse function may be different for each language. However, the pitch accent patterns by discourse (one function, one pitch accent) are theorized to be a cross-linguistic phenomenon.

What is the explanation behind this pattern-by-discourse hypothesis? F&H (2007) and B&F (2010) claim a three-way correlation between syntax, discourse, and intonation. The authors propose a complex structure of the left periphery, following a cartographic approach (B&F 2010; F&H 2007; Rizzi 1997; Rizzi and Cinque 2016). Example (11) is a graphic representation of F&H’s model, simplified for the purposes of this chapter.

(11)



As the reader can see, each pragmatic function (1. discourse) appears in the head position of a different syntactic phrase (2. syntax). Further, a constituent with X discourse function appears in the specifier position of X syntactic phrase. Concretely, the “constituent” spec-position in the *Contrastive Topic Phrase* would correspond to our Contrastive-CLLD condition, the “constituent” spec-position in the *Contrastive Focus Phrase* would correspond to Contrastive-FF, and the “constituent” spec-position in the *Familiar Topic Phrase* would correspond to Familiar-CLLD. In addition to this correlation between syntactic structure and discourse function, F&H suggest that contrastive constituents (both topics and foci) are correlated with the same pitch accent, and familiar constituents are correlated to a different one (3. intonation).

This model comes directly from the cartographic approach to syntax. First, the sort of functional phrases theorized by F&H (2007) (with a syntactic/pragmatic notion in head-position and a constituent in spec-position (review example (11)) is based on Kayne’s (1994) phrase structure, and it is generally accepted among cartographers. Second, F&H also follow the cartographic tradition (see Aboh 2016 and Rizzi and Cinque 2016, among others) of stipulating Kayneian syntactic phrases to the left periphery, adding certain pragmatic notions to them. Third, even the correlation between discourse and intonation is generally accepted among cartographic authors (e.g. Aboh; Rizzi and Cinque). Considering all these facts, why is F&H’s model the one being tested? Their model is different from the other ones because **1)** it makes a sub-division within the notion of topic, and **2)** it predicts that contrastive topic and contrastive focus constituents present the same pitch accent. This allows us to tell apart the notions of contrastiveness/familiarity from the notions of topic-focus, which is a necessary step in the experimental design tested in this chapter.

### 3.3. A Syntactic Approach to Intonation

The second hypothesis posits that the intonation of the left periphery will pattern according to the type of construction on which a fronted constituent is, based mainly on Feldhausen (2016). Let us take a look at the constructions used by the author. First, he finds two main differences between CLLD and hanging topic left dislocations (HTLD).

- (12) a. A      Maria      hace tiempo que no      la      veo      (CLLD)

[DOM Maria].ACC make time      that NEG CL.ACC see.1<sup>st</sup>

*I have not seen Maria in a while.*

- b. Maria      hace tiempo que no      la      veo      (HTLD)

[Maria].case? make time      that NEG CL.ACC see.1<sup>st</sup>

*I have not seen Maria in a while.*

- (13) a. Maria hace tiempo que no veo a esa sinvergüenza.      (HTLD)

[Maria].case? make time that NEG see.1<sup>st</sup> [DOM that shameless].ACC

*I have not seen Maria in a while, that shameless.*

- b. \*A      Maria      hace tiempo que no      veo      a      esa sinvergüenza.      (CLLD)

[DOM Maria].ACC make time      that NEG see.1<sup>st</sup> [DOM that shameless].ACC

*I have not seen Maria in a while, that shameless.*

On the one hand, CLLD includes an accusative direct object marker (DOM) *a*, while this is not the case for HTLD (see examples 12a vs. 12b; examples 1 and 2 in Feldhausen, 2016, p. 3). On the other hand, HTLD can be doubled with a DOM-ed determiner phrase, while this is not the case for CLLD (see examples 13a vs. 13b; based on examples 2 in Feldhausen 2016, p. 3). According to the author, this is evidence that these are two different syntactic constructions.

Second, Feldhausen (2016) (as well as Casielles 1997; López 2009) proposes that CLLD and left dislocations without clitic-doubling (LD) are different variants of the same syntactic construction.

(14) a. El dinero dicen que lo tiene en Suiza. (CLLD)

[The money].ACC say.3<sup>rd</sup>.pl that CL.ACC have.3<sup>rd</sup>.sing in Switzerland

*They say he-she has the money in Switzerland.*

b. Dinero dicen que tiene en Suiza. (LD)

[Money].ACC say.3<sup>rd</sup>.pl that have.3<sup>rd</sup>.sing in Switzerland

*They say he-she has (some) money in Switzerland.*

According to Feldhausen, Spanish does not have clitics pronouns to double indefinite bare nouns, and therefore constituents with those characteristics cannot be clitic-doubled. This would be the case of *dinero* ‘(some) money’ in example 14b in comparison to 14a (based on example 3 in Feldhausen 2016, p. 4). As additional evidence, López (2009) shows several examples of CLLD in Catalan. Some of these utterances would not include clitic-doubling if translated into Spanish, since Spanish does not have certain clitic pronouns, such as neutrals<sup>4</sup> or locatives<sup>5</sup>. I believe this is further evidence that CLLD and LD are the same construction, differing only on clitic pronoun availability in a concrete language.

<sup>4</sup> López’s (2009) example 1.4.b. in p. 5: Neutral Clitic-ed *Intelligent no ho és* in Catalan, neutral clitic-less *Inteligente no ( ) es* in Spanish. ‘He/She isn’t intelligent.’

<sup>5</sup> López’s (2009) example 1.4.c. in p. 5: Locative clitic-ed *Sobre la taula no lo hi he posat* in Catalan, locative clitic-less *Sobre la mesa no lo ( ) he puesto* in Spanish. ‘He/She isn’t intelligent.’

Returning to intonation, Feldhausen (2016) found evidence, via scripted production, that monolingual Spanish speakers produce a consistent L+H\* H- nuclear configuration<sup>6</sup> for CLLD, LD, and HTLD. However, the constructions differ in the proportion of instances in which there is pause between the fronted constituent and the rest of the utterance; HTLD is produced with a pause significantly more often than CLLD/LD. However, no significant differences of any kind were found between CLLD and LD. Therefore, the author argues for a correlation between the presence/absence of a pause and syntax (HTLD vs. CLLD/LD).

Despite the construction described by Feldhausen (2016), the focus of this chapter is CLLD and FF. Section 2 reviews the intonational/pragmatic/syntactic puzzle used as a test case. Further, section 3.2. provides a syntactic analysis that explains the relationship between intonation and discourse function, in the context of our cartographic – pragmatic hypothesis. However, no syntactic analysis in support of Feldhausen’s syntactic hypothesis for intonation has been presented thus far. At this point, Rubio Alcalá’s (2014) syntactic analysis comes handy.

### 3.3.1. *Discourse-free Syntax*

Is the lack of correlation between intonation and discourse function found by Feldhausen (2016) evidence that discourse notions are not present in the syntactic derivation? In other words, is the correlation between intonation and syntax evidence that syntax is completely ‘narrow’ (discourse-free) during derivation? An answer to these two question will not be possible on this chapter, but they will lead us to make an explicit assumption: The same way F&H (2007) claim that a

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<sup>6</sup> Feldhausen (2016) provides a much more detailed description of his results. However, the author found no significant differences between CLLD, LD, and HTLD for pitch accent or boundary tone. Therefore, I assume no difference, which makes the explanation easier to follow for the purposes of my chapter.

‘discursive-syntax’ (review example (11)) leads to a correlation between intonation and discourse function, I am going to assume at this point that a ‘discourse-free-syntax’ leads to a correlation between intonation and construction type with no involvement of pragmatics (based on Feldhausen).

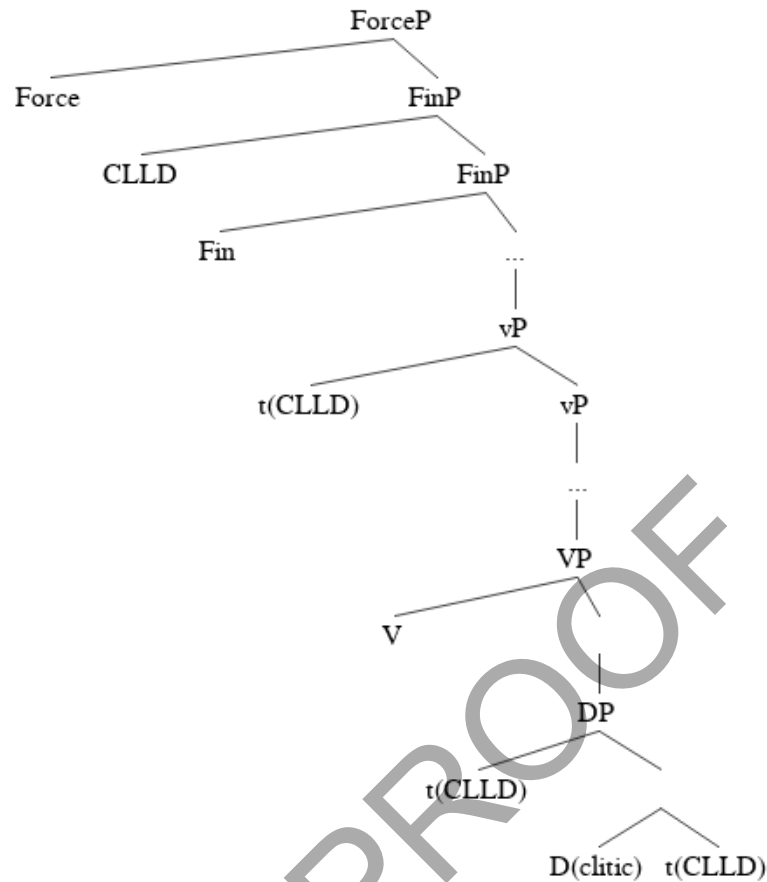
With the previous (and for now unproved) assumption in mind, let us take a look at Rubio Alcalá’s (2014) discourse-free proposal for CLLD’s syntactic structure. This analysis can be summarized as in example (15). Unlike F&H (2007), Rubio Alcalá suggests a movement analysis for CLLD. The constituents originates in a so-called Big-DP (direct object in our example). The D-head is the clitic-doubling, which would agree in person, number, gender, and case with the CLLD-to-be constituent before it moves. Starting as complement of D, the constituent moves to Spec-D. From there, it moves to an adjunct position of the vP, at the very edge of the first phase<sup>7</sup>. Then, the constituent moves to an adjunct position, sister of FinP. Since the focus of this chapter is intonational and not syntactic, I refer the reader to Rubio Alcalá’s dissertation for a more detailed description.

(15)

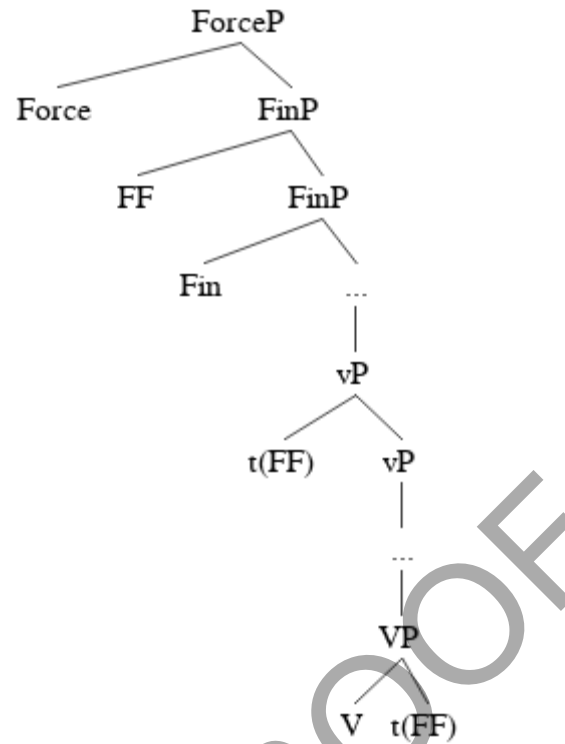
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<sup>7</sup> Rubio Alcalá (2014) borrows this idea from López (2009).



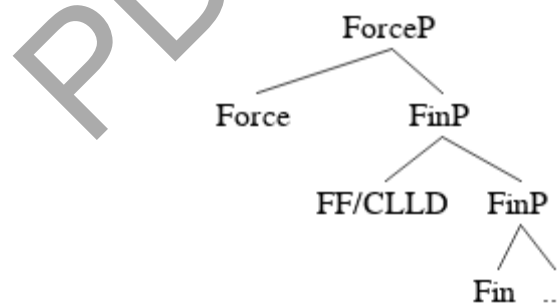


Even though Rubio Alcalá (2014) only talks about CLLD, a parallel analysis could be derived for FF (see example (16)). What I suggest here is the same VP-vP-FinP movement analysis as for CLLD. The only difference would be that a CLLD-ed constituent would originate in a Big-DP (following Rubio Alcalá 2014), which explains the presence of clitic-doubling, while FF is originated as a regular DP, which explains the lack of clitic-doubling. The idea of CLLD and FF having almost identical derivations is not new, and I refer the reader to López (2009) for a detailed explanation of this proposal.



Putting it all together, the left periphery I am proposing would look like this:

(17)



In sum, both Rubio Alcalá's (2014) and Feldhausen's (2016) findings suggest a lack of involvement of discourse notions in both syntactic derivation (Rubio Alcalá) and intonational patterns (Feldhausen). For the purposes of this chapter, if Rubio Alcalá's discourse-free syntax is on

the right track, discourse function could not correlate intonation. This would be the case because discourse function would not be present during syntactic derivation, nor during linearization.

### *3.4. Research Questions and Predictions*

Taking into account the literature reviewed thus far, the research questions of the study are formalized as follow:

- **RQ1** Is PITCH ACCENT on the left periphery correlated to discourse function (contrastive vs. familiar) or to construction type (FF vs. CLLD)?
- **RQ2** Is BOUNDARY TONE on the left periphery correlated to discourse function (contrastive vs. familiar) or to construction type (FF vs. CLLD)?
- **RQ3** Is the presence/absence of an intermediate PAUSE correlated to discourse function (contrastive vs. familiar) or to construction type (FF vs. CLLD)?

These three research questions established for pitch accent (B&F 2010; Feldhausen 2016; F&H 2007), boundary tone (Feldhausen) and pause (Feldhausen) as dependent variables. Two hypotheses are posited:

- **Discursive Hypothesis:** Contrastive and Familiar fronted constituents will present two different intonational/prosodic patterns, based on F&H (2007) and B&F (2010). The type of construction will not make a difference. The authors' specific prediction refers to pitch accent only, and the authors do not mention boundary tone or pause.

- **Syntactic Hypothesis:** CLLD and FF will present two different intonational patterns, based on Feldhausen (2016). The discourse function that those fronted constituents fulfill will not make a difference. The author's findings show a significant difference for pause only, since pitch accent and boundary tone in the left periphery was found to be raising overall. However, the author did study the three variables, finding an overall pattern by construction type<sup>8</sup>.

## 4. Method

The present section describes the scripted production task (following Feldhausen 2016; Stavropoulou and Spiliotopoulos 2011) used to answer the research questions proposed in subsection 3.3. The section is outlined as follows: Section 4.1. presents the participants, Section 4.2. describes the materials and procedures, Section 4.3. presents the variables, and Section 4.4. suggests the most appropriate statistical analyses considering the nature of the task and the resulting data, and Section 4.5. describe the coding procedure.

### 4.1. Participants

All 12 participants are L1 speakers of Castilian Spanish who lived in the Madrid-area, Spain at the time of testing. Madrid was chosen as the testing location for two reasons: First, most people in Central/Southern Spain are monolingual in Spanish, unlike in Northern and Eastern Spain and the Spanish-speaking Americas. Second, Madrid is the largest city in this part of the country, which facilitates contacting potential participants.

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<sup>8</sup> L+H\* H- pause for HTLD, and L+H\* H- no-pause for CLLD.

Participants completed the following three documents. First, they signed an IRB form in which they decide whether or not to give consent to participate in the experiment. Second, they completed a background questionnaire in which they provided information so that the following variables are controlled: **1)** age, **2)** gender, **3)** level of education, **4)** years living in the Madrid-area. Additionally, two other variables are added as exclusion/inclusion criteria: the participant must **4)** have been born and raised in the Madrid-area, and **5)** live in the Madrid-area at the time of testing. Lastly, **6)** participants are asked whether they speak any other languages<sup>9</sup>. See Appendix A for a complete copy of the background questionnaire.

The last point in the background questionnaire is included considering the growth of English bilingual education in the Province of Madrid in the last two decades. The goal is to control the possible effect bilingualism. Participants who declared to speak other languages completed the Bilingual Language Profile (BLP; Gertken, Amengual, and Birdsong 2014), which provides a score between +218 (complete dominance in Spanish) and -218 (complete dominance in another language). For this chapter, the score is converted to percentage in order to make the interpretation more clear. 0% would mean monolingualism in English, 50% balanced English-Spanish bilingualism, and 100% monolingualism in Spanish. Speakers who declare not to speak a language other than Spanish, automatically receive a percentage of 100% in Spanish. No concrete threshold is predetermined for inclusion in the experiment. However, the dominance percentage is included as a possible random effect. See Appendix B for a full copy of the BLP test (Gertken et al.).

The description of the participants as a group is included in Table 1, and the description of each individual is attached in Appendix C. As the reader can see, all participants are Spanish-dominant speakers, with a percentage over 78.9%:

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<sup>9</sup> No participant reported to speak a language other than Spanish or English.

**Table 1.** Description of the group of participants included in the present chapter.

Age	Gender	Education	% of Life in Spain	BLP %
$M = 37.75$ ( $SD = 16.66$ ) [18 – 62]	Female = 6 Male = 6	Graduate School = 1 Undergraduate = 6 High School = 5	$M = 99.00\%$ ( $SD = 0.02\%$ ) [95.4% - 100%]	$M = 93.00\%$ ( $SD = 0.09\%$ ) [78.9% - 100%]

#### 4.2. Materials and Procedure

The participants described in sub-section 4.1. completed an elicited production task in the following manner: First, participants took some time to read for themselves an introductory context, a question, and an answer. Second, out loud, participants read the question and the answer. Participants' out loud production was audio recorded. Stimuli was presented via digital PDF on a computer screen. Participants completed 12 experimental items and 12 fillers, presented in 6 pseudo-randomized orders, counterbalanced across participants. The 12 experimental items are divided in 3 conditions: Contrastive-FF, contrastive-CLLD, and familiar-CLLD. These three conditions are discussed in detail in section 2. Examples (7), (8) and (9) are presented here again as example (18) as a summary of the experimental design. Appendix D presents the complete set of stimuli, divided by condition. Note that some of the items include instances of *léismo* and *laísmo*, which I included considering how natural this phenomena are in Castilian Spanish.

#### (18) QUESTION / CONTEXT

¿Has visto [ANTECEDENTA tus amigos]?

Have.3<sup>rd</sup> see.part DOM your friend

*Have you seen your friends?*

a. CONDITION 1 – CONTRASTIVE-FF

¡No! [Contrastive-FFA mis primos] he visto, no a mis amigos.

NEG [DOM my cousins].ACC have.1<sup>st</sup> see.part NEG DOM my friends

*No! I have seen my cousins, not my friends.*

b. CONDITION 2 – CONTRASTIVE-CLLD

¡Sí! [Contrastive-CLLDa Paco] [clitic-doublinglo] he visto en Madrid,

Yes [DOM Paco].ACC CL.ACC have.1<sup>st</sup> see.part in Madrid

y [Contrastive-CLLDa Pedro] en Barcelona.

and DOM Pedro in Barcelona.

*Yes! I have seen Paco in Madrid, and Pedro in Barcelona.*

c. CONDITION 3 – FAMILIAR-CLLD

¡Sí! [Familiar-CLLDa mis amigos] [clitic-doublinglos] he visto en Madrid.

Yes [DOM my friends].ACC CL.ACC have.1<sup>st</sup> see.part in Madrid

*Yes! I have seen my friends in Madrid.*

4 items per condition is a fairly short number of experimental items from a statistical point of view. However, previous production experiments have also counted with a small number of items (Feldhausen 2016; Sequeros-Valle, Hoot, and Cabrelli Amaro in progress a and b; Stavropoulou and Spiliotopoulos 2011) given the possible tiredness caused by processing pressure (Grüter, Lew-Williams and Fernald 2012) in production.

#### 4.3. Variables

The dependent variables of the experiment are *Pitch Accent*, *Boundary Tone*, and *Pause*, with multiple outputs being possible. The data analysis will determine what those outputs are. Ideally, the independent variables would be *Discourse*, coded as either “Contrastive” or “Familiar,” and *Construction*, coded as either “CLLD” or “FF.” However, the discourse functions and constructions do not allow for a 2x2 design, since FF cannot be familiar. Therefore, the independent variable is simply *Condition*, coded as “Contrastive-FF,” “Contrastive-CLLD,” and “Familiar-CLLD.” Further, the dominance percentage from the Bilingual Language Profile is included as a continuous random variable.

The following factors are controlled for in this production experiment. Every lexical item is controlled for frequency by appearing in *A Frequency Dictionary of Spanish* (Davies 2006). The exception to this rule are the fronted proper names, for reasons explained below. All fronted/dislocated constituents **1)** include a DOM, so that the constituent can only be interpreted as a fronted human direct object. Additionally, they **2)** are three-syllable person’s name, with the stress in the third-to-last syllable. The goal is to be able to tell apart pitch accent (in the last stressed syllable) and boundary tone (in the end of the very last syllable), following Feldhausen (2016). Additionally, **3)** these fronted constituents are formed completely by voiced phones, so that the intonational contour is available throughout the entire constituent. These specific requirements for choosing names led to a compromise: the proper names chosen fulfill the requirements at the expense of not being able to control for frequency. For the three conditions, the main clauses includes **1)** a pre-verbal clitic-doubling (for CLLD only), and **2)** a transitive verb conjugated in present tense.

Despite the similarities, there are also some differences among the three conditions. **1)** For contrastive-FF, the main clause includes a clarification of who the sentence is NOT talking about, and a ¡No! at the beginning (see example (18a)). Both **2)** contrastive-CLLD and **3)** familiar-CLLD



utterances include a prepositional phrase (PP) adjunct that responds to the wh-word in the question (see examples (18b) and (18c)). The reasoning to make contrastive-FF items different than CLLD items lies on the semantic/pragmatic structure of these utterances. Using F&H's (2007) terminology, CLLD is topical, which means that some new information is going to be added in relation to this topic. In our case, this new, focal information is added via PP-adjunct. Notice that in example (18b) and (18c), communicating the fact that it is in Madrid where I have seen my friends is the main semantic goal of the utterance. In sum, the addition of new information is needed for CLLD. However, again on F&H terms, FF is focal. This means that the fronted constituent is used to open and close a new variable (López 2009). Reviewing example (18a), the reader will notice that the main semantic goal of the utterance is to clarify that it is a mis primos the ones I have seen. No answer is provided for the wh-word dónde. Therefore, no PP-adjunct is required, nor acceptable. The utterance in (19b) shows that a FF construction with a focal PP-adjunct is problematic.

- (19) a. ¿Dónde has visto [ANTECEDENTA tus amigos]?  
 Where have.3<sup>rd</sup> see.part DOM your friend  
*Where have you seen your friends?*
- b. #[Contrastive-FFA mis primos] he visto [new information en el parque].  
 [DOM my cousins].ACC have.1<sup>st</sup> see.part in the park  
*#No! I have seen my cousins in the park.*

#### 4.4. Statistical Analysis

For the group results, the statistical analysis proposed for our experiment is a series of binomial<sup>10</sup> logistic regressions<sup>11</sup> via generalized linear models; one for pitch accent, one for boundary tone, one for high boundary tones alone (see section 5.), and one for pause. For each one of them, condition is the independent variable. Further, the dominance percentage from the Bilingual Language Profile (Gertken et al. 2014) is included as a continuous random variable in all four analyses. These tests are to be run via SPSS. For individual results, the ideal test would be a McNemar's mid-p-value analysis (Fagerland, Lydersen, and Laake 2013). However, previous studies have found this test to be problematic for small stimuli numbers (e.g. Sequeros-Valle et al. in progress a and b). Instead, I propose to compare individual results to the 95% confidence intervals of the group mean value for each condition.

#### 4.5. Coding Procedure

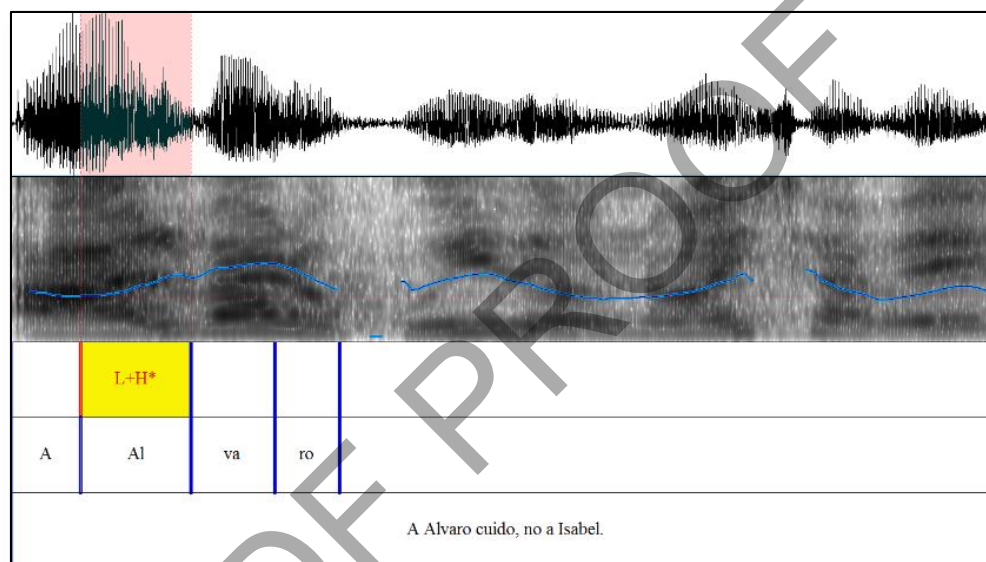
Before showing the results, let us review what the coding process looked like. Intonation analysis is naturally subject to subjectivity. In order to reduce the human factor and make results comparable to other papers, it is necessary to be extremely specific on detailing the coding procedure. The entire coding process was done in Praat (Boersma and Weenink 2018). The last strong syllable (3<sup>rd</sup> to last) and the last syllable from each fronted constituent were manually segmented.

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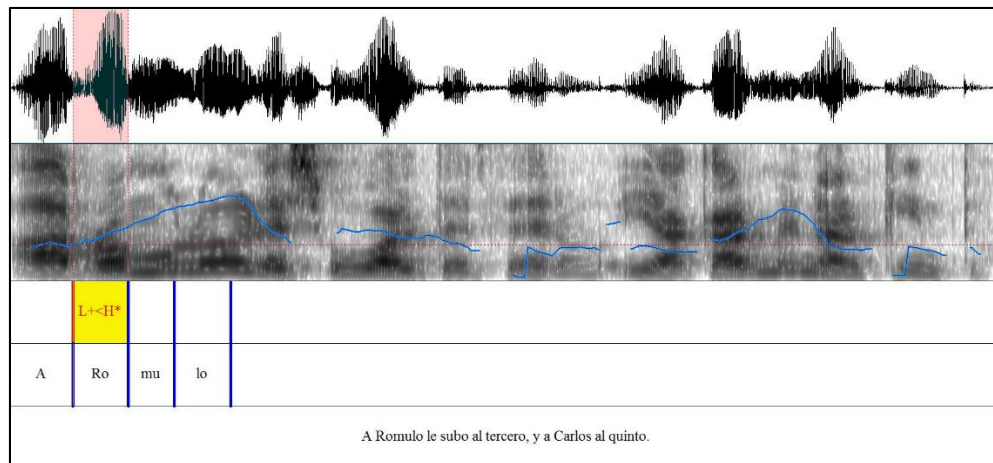
<sup>10</sup> The logistic regressions in the study are binomial (instead of multinomial) because the data happens to be binomial; there is no *a priori* reasoning for it.

<sup>11</sup> Larson-Hall (2010) recommends the use of a logistic regression analysis (instead of chi-square) when the data presents multiple data points from each participant. I refer the reader to Larshon-Hall's page 214 for her discussion on Saito (1999).

For pitch accent, data will show that all constituents show a raising contour. In general, the descriptions from Hualde and Prieto (2015) were followed. L+H\* and L+<H\* were difficult to distinguish. Any kind of deviation from the overall raising line was interpreted as a high peak, and the pitch accent coded as L+H\*. Only straight raising lines through the strong syllable and the next one were coded as L+<H\*. See Figures 2 (L+H\*) and 3 (L+<H\*) to observe the difference to which I am referring.

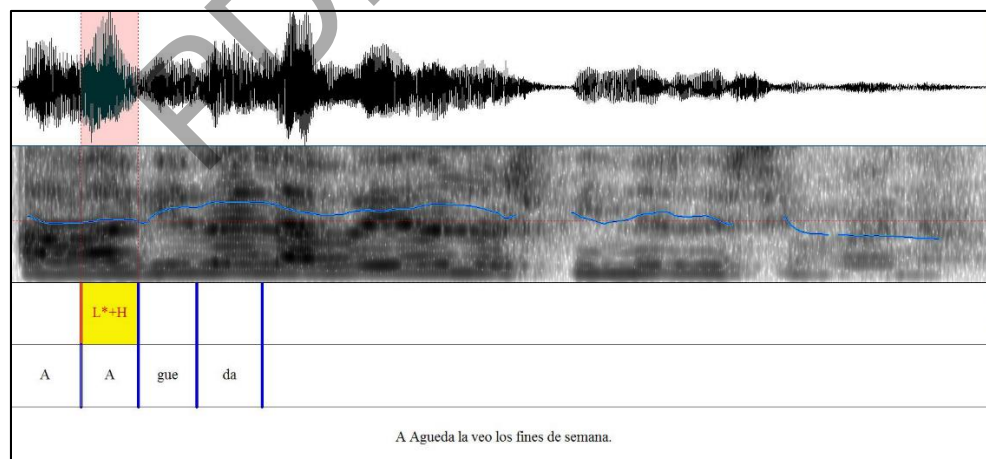


**Figure 2.** Example of an item coded as L+H\* for pitch accent.

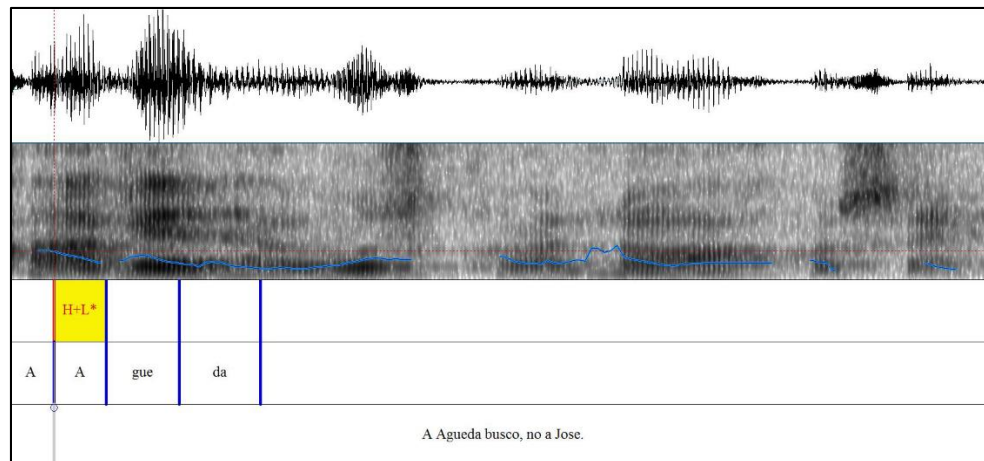


**Figure 3.** Example of an item coded as L+<H\* for pitch accent.

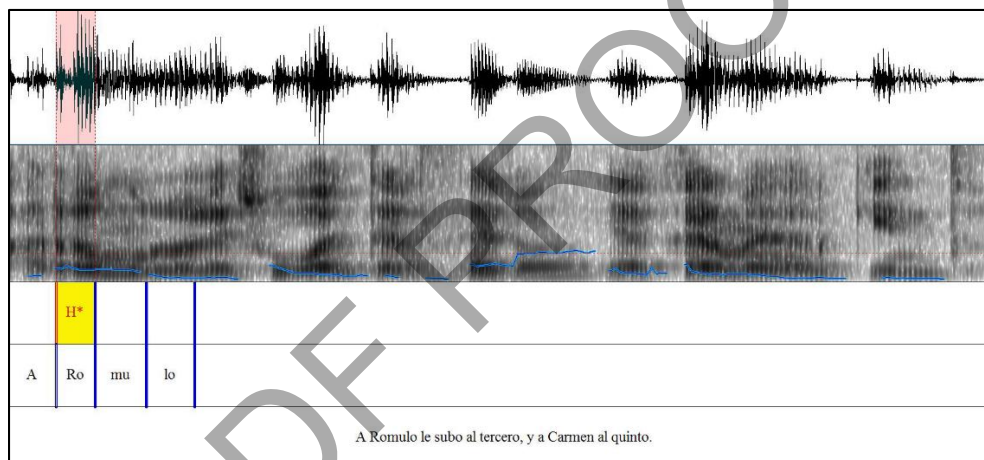
Beyond these two very similar pitch accents, three more appear in the data set. A pitch accent was coded as L\*+H if the intonational contour was flat in the tonic syllable and raised in the post-tonic syllable (see Figure 4). A pitch accent was considered H+L\* if the intonational contour lowered throughout the tonic syllable (see Figure 5). Finally, a pitch accent was coded as H\* if the intonational contour was flat, and higher than in the pre- and post- tonic syllables (see Figure 6).



**Figure 4.** Example of an item coded as L\*+H for pitch accent.



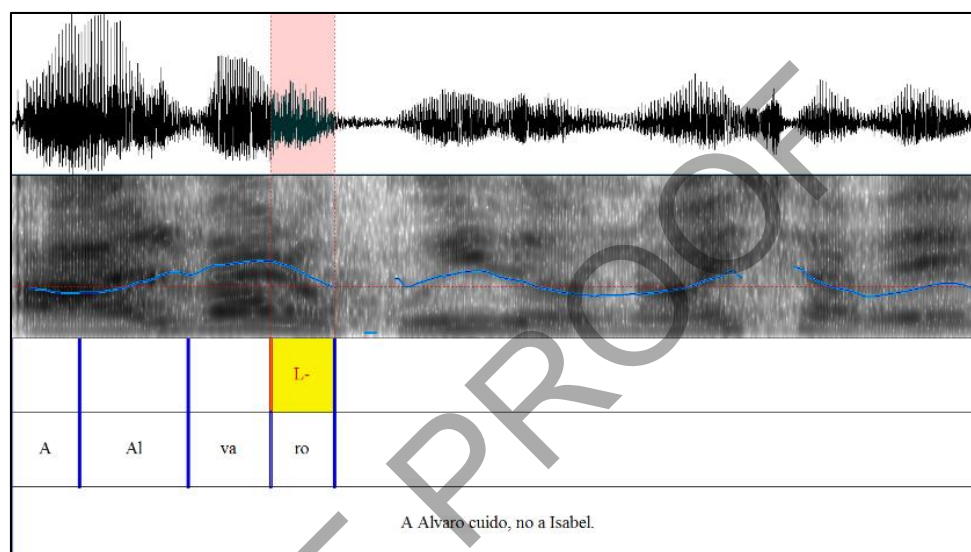
**Figure 5.** Example of an item coded as H+L\* for pitch accent.



**Figure 6.** Example of an item coded as H\* for pitch accent.

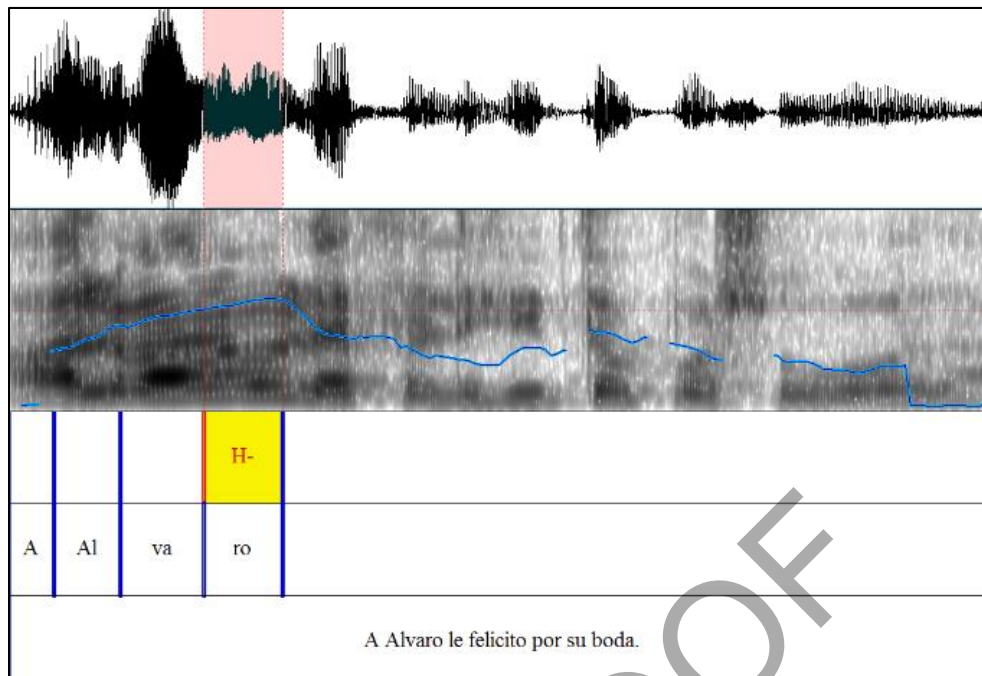
For the intermediate boundary tone between the fronted constituent and the rest of the utterance, the data set shows L-, H-, and !H- contours. In general, the description from Hualde and Prieto (2015) were followed, but here I present some additional details on subjective decision that needed to be made while coding. First, a boundary tone was considered low if the end of the last syllable was **1)** lower than the beginning of the syllable and **2)** as low as or more than the pitch

accent. Second, a boundary tone was considered H-<sup>12</sup> if the end of the last syllable was **1)** higher than the beginning of that syllable and **2)** as high as or more than the pitch accent. Third, a boundary tone was considered !H- if the beginning and the end of the last syllable were **1)** equally high and **2)** as high as or more than the pitch accent. See Figures 7 (L-), 8 (H-), and 9 (!H-) to observe the difference between the three boundary tones.

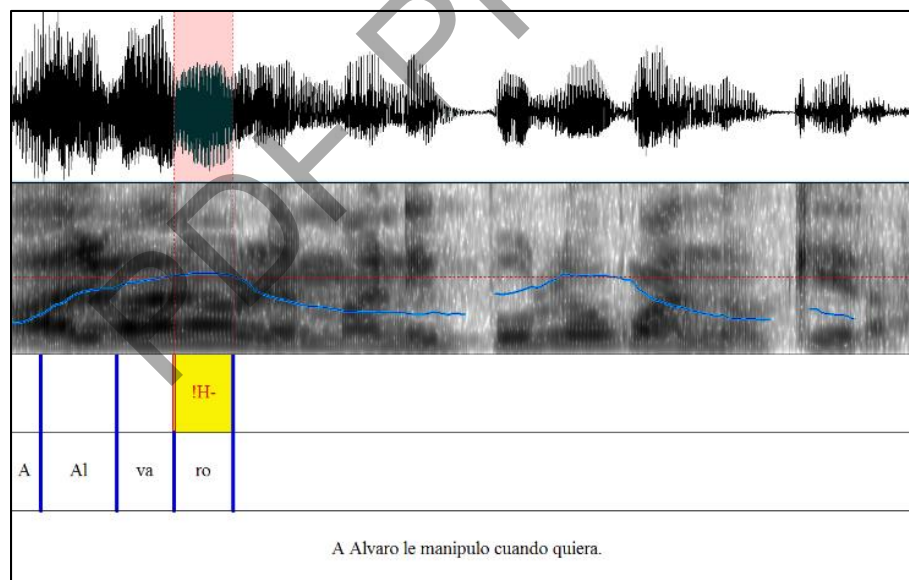


**Figure 7.** Example of an item coded as L- for boundary tone.

<sup>12</sup> Throughout the paper I present the H- and !H- boundary tones as two separated entities, following Feldhausen (2016). However, one of the reviewers points out that those may be instances of the same phonological unit: the differences between the two may only be due to the distance between the CLLD boundary tone and the next pitch accent in the verb. I believe the results I present in this paper are compatible with this approach: In Section 5, I argue that there are no significant differences between the two, and Figure 11 shows that they end up collapsed is only one category.



**Figure 8.** Example of an item coded as H- for boundary tone.



**Figure 9.** Example of an item coded as !H- for boundary tone.

Lastly, any silence space after a fronted constituent was coded as pause, following Feldhausen (2016).

#### 4.5.1. Double-coded Data

Two researchers, the author and a collaborator, coded the entire data set independently from each other. The two resulting data sets were compared using both percentages and the Cohen's Unweighted Kappa ( $\kappa$ ; Brennan and Prediger, 1981; Randolph, 2008; Yoon, Chavarria, Cole, and Hasegawa-Johnson, 2004) statistic of inter-rater reliability. Results show a high degree of agreement between the two: 91.608% and  $\kappa = 0.701$  [0.540 – 0.863] for pitch accent, 98.601% and  $\kappa = 0.972$  [0.934 – 1.000] for boundary tone, and 95.804% and  $\kappa = n/a^{13}$  for pause. The author solved disagreements between the two data sets in a second round of coding.

### 5. Results

The data set include a total of 288 utterances, with 144 of them being experimental items. One of the 144 was invalid due to an incomplete sentence. The research questions ask whether pitch accent, boundary tone, and pause are correlated to discourse function or to construction type. Therefore, let us divide our results the by the *Pitch Accent*, *Boundary Tone*, and *Pause* dependent variables, and their possible correlations to the *Condition* independent variable. For inferential

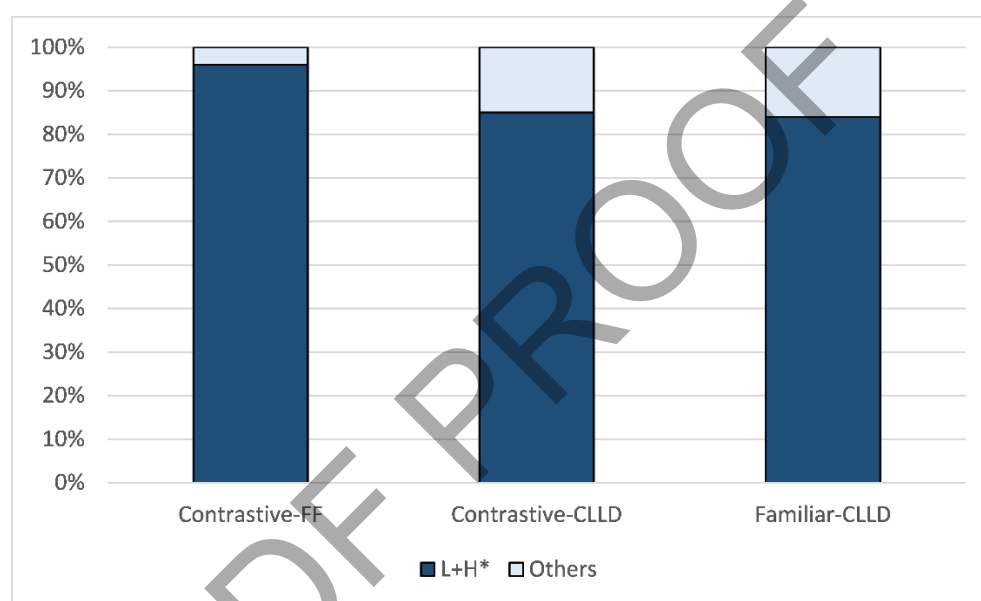
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<sup>13</sup> The Cohen's Kappa's calculation provided no output. In 137 items, both coders considered that there was no pause. In the other 6 items, coder#1 considered that there was a pause while coder#2 considered that there was not. Therefore, there are instances in which both coders coded "pause," but no instances in which both coders coded "no-pause." This makes the Kappa formula go down to zero; see Lowry (2001) for a complete explanation. The percentage of agreement is still very high for the variable pause, concretely 95.804%.



analyses, *Dominance* is included as a random variable as a percentage of the BLP score (Gertken et al. 2014).

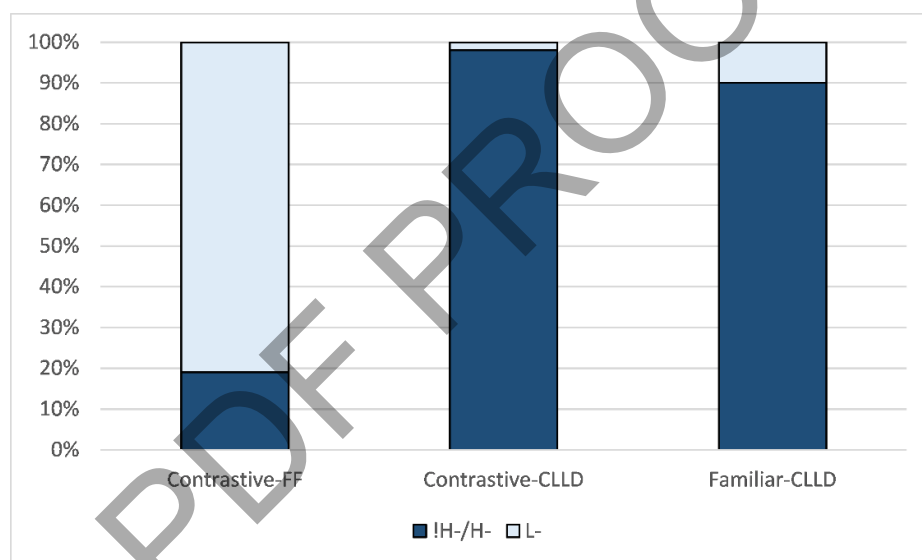
Let us start by looking at the data points for pitch accent. Out of the resulting 143 items, 125 of them (87.41%) presented L+H\* pitch accents, 13 (9.09%) for L\*+H, 3 (2.10%) for L+<H\*, 1 (0.70%) for H+L\*, and 1 (0.70%) for H\*. The data set is analyzed as binomial (87.41% for L+H\*, 12.59% for Others). These descriptive results are presented in Figure 10, by condition.



**Figure 10.** Descriptive results for pitch accent by condition.

Inferentially, a first binomial logistic regression indicate no effect for pitch accent by condition ( $F(2,139) = 2.236, p = 0.111$ ). Further, pairwise comparisons indicate no effects between contrastive-FF and contrastive-CLLD ( $p = 0.156$ ), between contrastive-CLLD and familiar-CLLD ( $p = 0.999$ ), or between contrastive-FF and familiar-CLLD ( $p = 0.156$ ). Lastly, there was not a significant effect of Dominance ( $F(1,139) = 0.010, p = 0.919$ ).

Let us now turn to the boundary tone results. Out of the resulting 143 items, 89 of them (62.23%) presented !H- boundary tone, 10 (7.00%) for H-, and 44 (39.77%) for L-. The output of a binomial logistic regression indicated the lack of an effect between !H- and H- boundary tones by condition ( $F(1,88) = 2.003, p = 0.161$ ). Instances of H- could be simply considered exceptions to an overall !H- boundary tone (7% vs. 62%). Taking all this into consideration, the data set is analyzed as binomial (69.23% for !H-, and 39.77% for L-)<sup>14</sup>. These descriptive results are presented in Figure 11, by condition. For the rest of the paper, I refer to all high boundary tones as !H-, considering that results indicate that !H- is the boundary broadly used in Madrid Spanish for CLLD.



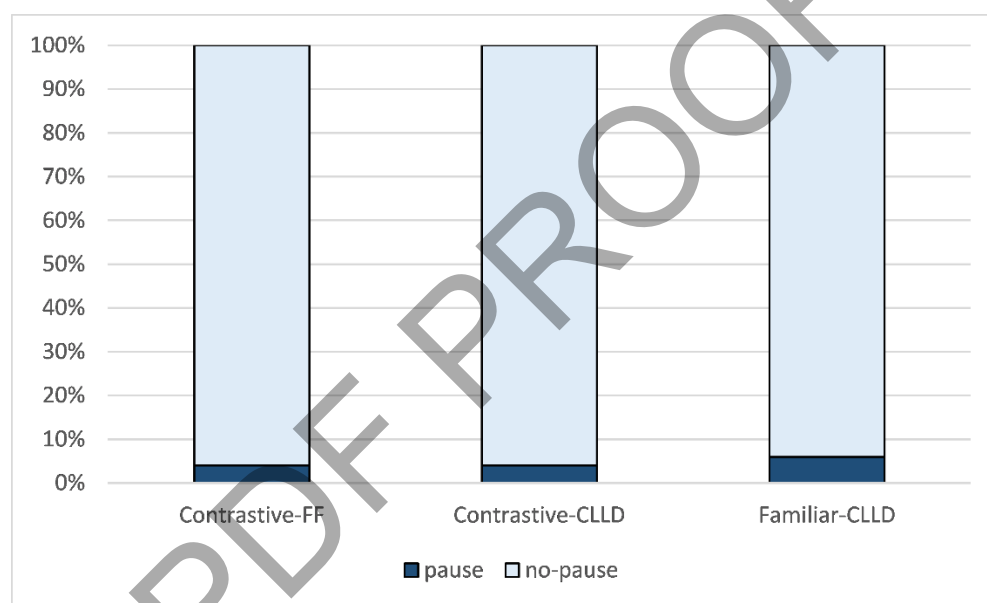
**Figure 11.** Descriptive results for boundary tone by condition.

Inferentially, the second binomial logistic regression indicate a significant effect for boundary tone by condition ( $F(2,139) = 24.219, p < 0.001$ ). Further, pairwise comparisons indicate a significant effect between contrastive-FF and contrastive-CLLD ( $p < 0.001$ ) and between contrastive-FF and

<sup>14</sup> A third binomial logistic regression indicated no effect between !H- and H- boundary tones by condition ( $F(1,88) = 2.003, p = 0.161$ ).

familiar-CLLD ( $p < 0.001$ ). However, no effect was found between contrastive-CLLD and familiar-CLLD ( $p = 0.135$ ). Lastly, there was not a significant effect of Dominance ( $F(1,139) = 0.526$ ,  $p = 0.470$ ).

Finally, let us turn to the results for pause. Out of the resulting 143 items, 7 of them (4.90%) were produced with an intermediate pause between the fronted constituent and the rest of the utterance, while the other 136 (95.10%) did not include a pause. These descriptive results are presented in Figure 12, by condition.



**Figure 12.** Descriptive results for pause by condition.

Inferentially, the last binomial logistic regression indicate no effect for pause by condition ( $F(2,139) = 0.068$ ,  $p = 0.934$ ). Further, pairwise comparisons indicate no effects between contrastive-FF and contrastive-CLLD ( $p = 0.759$ ), between contrastive-CLLD and familiar-CLLD ( $p = 0.749$ ), or between contrastive-FF and familiar-CLLD ( $p = 0.991$ ). Lastly, there was not a significant effect of Dominance ( $F(1,139) = 0.111$ ,  $p = 0.740$ ).

### 5.2. Individual Variation

Let us now turn to the results from the 95% C.I. analysis for individual variation. First, for pitch accent, none of the participants produced a significant difference between any of the conditions. Second, for boundary tone, none of the participants produced a significant difference between contrastive-CLLD and contrastive-CLLD either. However, 10 out of the 12 did produce a significant difference between contrastive-FF and contrastive-CLLD, and 9 out of 12 did produce a significant difference between contrastive-FF and familiar-CLLD. Lastly, none of the participants produced a significant difference between any of the conditions for the presence/absence of pause. These findings are summarized in Table 2.

**Table 2.** Percentage of participants who show a significant difference in pitch accent, boundary tone, and pause for the pairwise comparisons indicated.

	<b>C-FF vs. C-CLLD</b>	<b>C-FF vs. F-CLLD</b>	<b>C-CLLD vs. F-CLLD</b>
<b>Pitch Accent</b>	0 (0%)	0 (0%)	0 (0%)
<b>Boundary Tone</b>	10 (83%)	9 (75%)	0 (0%)
<b>Pause</b>	0 (0%)	0 (0%)	0 (0%)

## 6. Discussion

This section discusses the results from section 5 in the light of the literature review and the research questions presented in section 3. In a nutshell, the results indicate no significant differences

for pitch accent or pause between any of the conditions, both at the group and the individual level. Further, no difference in boundary tone is found between the two CLLD conditions (contrastive and familiar), both at the group and the individual level. However, significant differences in boundary tone are found between the FF condition (contrastive) and both CLLD conditions (contrastive and familiar). These two differences are also found in the individual data in two thirds of the participants.

Let us discuss these results in the light of our research questions: Are the intonational patterns (1 – pitch accent, 2 – boundary tones, 3 - pause) of the left periphery correlated to discourse function (contrastive vs. familiar) or to construction type (FF vs. CLLD)? Two competing predictions were posited. First, intonational patterns by discourse function were predicted. This would mean that contrastive and familiar fronted constituents would present two pitch accents (based on F&H 2007 and B&F, 2010), with construction type not making a difference. Second, intonational patterns by construction type were predicted. This would result in CLLD and FF presenting two different overall intonational patterns (based on Feldhausen 2016), regardless of discourse function.

Let us discuss the results for pitch accent. No differences were found both at the group and the individual level. The lack of a difference between contrastive-FF and contrastive-CLLD fits within the pragmatic prediction by F&H (2007) and B&F (2010). However, familiar-CLLD was predicted to present a different pitch accent, which was not the case in our data. However, the syntactic prediction by Feldhausen (2016) can fit this lack of significant difference. His results indicated very consistent pitch accents across the board, for HTLD, CLLD, and LD. However, it is fair to say that the lack of a difference does not indicate a pattern by discourse function or by construction type. There seems to be a pitch accent present at the left periphery overall, namely L+H\*, found by Feldhausen and the present chapter.

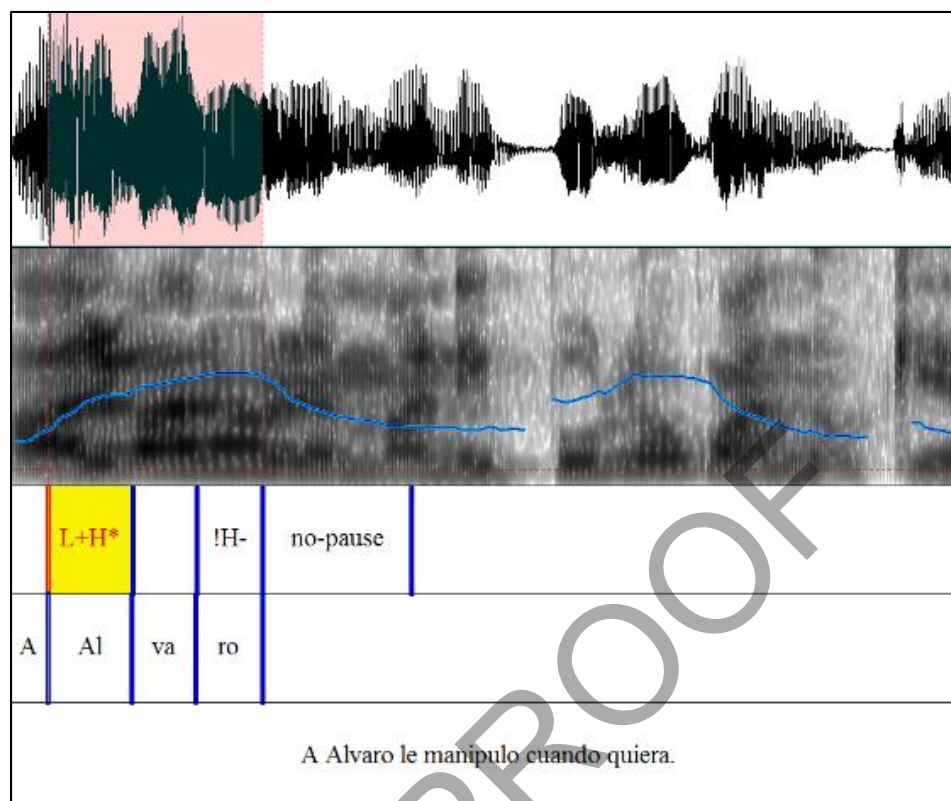
Let us now turn to the results for boundary tone. In sum, there were no differences between the two CLLD conditions, and significant differences between FF and both CLLD conditions. This seems to show a pattern by construction for boundary tone; !H- for CLLD and L- for FF. This pattern goes along the lines of the syntactic prediction (Feldhausen 2016). It is fair to say that F&H (2007) and B&F (2010) do not make any claims on boundary tones, and therefore this second research question does not directly contradict their claims.

Finally, let us discuss the results for pause. No significant differences were found both at the group and the individual level. The lack of differences among the three conditions, does not challenge nor support our pragmatic (B&F 2010; F&H 2007) and our syntactic (Feldhausen 2016) hypotheses for the intonation of the left periphery. However, the overall lack of post-CLLD pause goes along the line of Feldhausen's findings. No concrete predictions were made for FF, but its lack of pause is certainly informative.

As seen in the previous paragraphs, looking at pitch accent, boundary tones, and pause separate does not prove nor falsify the predictions made for our research questions. Therefore, I believe it is relevant to look at those three variables together. As can be induced from what has been discussed thus far, CLLD presents a “L+H\* !H- no-pause” nuclear configuration (see Figure 13), while FF presents a “L+H\* L- no-pause” nuclear configuration (see Figure 14). However, no such a pattern was found for the Contrastive and Familiar discourse functions. Therefore, the overall intonational pattern provides supporting evidence for the syntactic hypothesis of intonation for the left periphery (Feldhausen 2016), and challenges the pragmatic hypothesis (B&F 2010; F&H 2007)<sup>15</sup>.

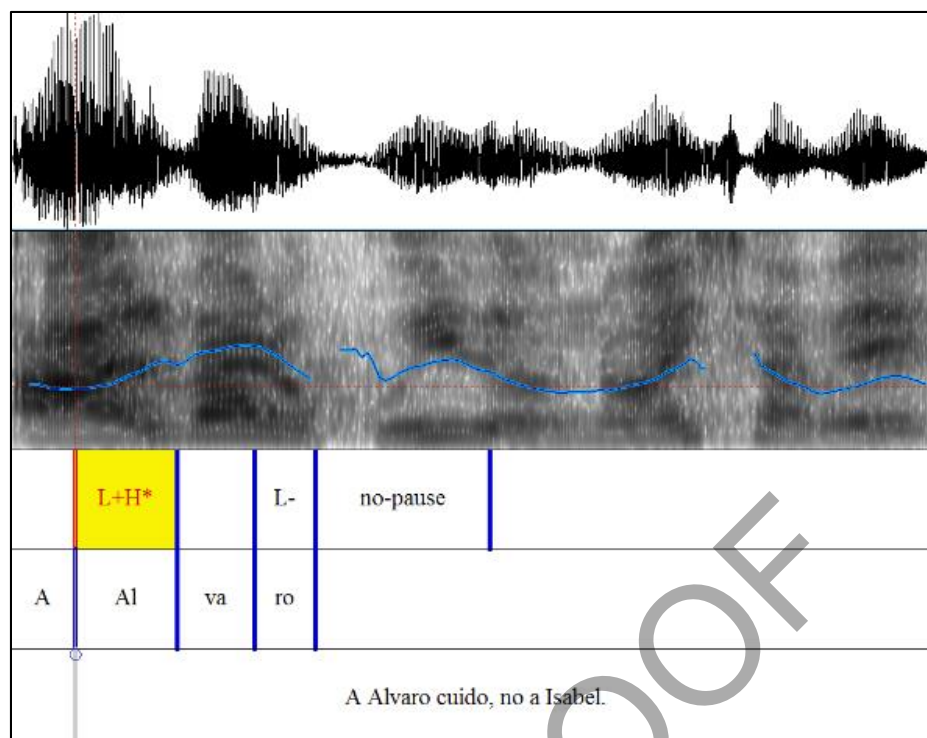
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<sup>15</sup> One of the reviewers pointed out that these results can be interpreted in a different direction. Previous literature prosodic structure claim for a mapping between syntactic and prosodic structures (Beckman and Pierrehumbert, 1986; Féry, 2016; Gussenhoven, 2004; Ladd, 2008; Pierrehumbert, 1980; Pierrehumbert and Beckman, 1988; Selkirk, 2011;



**Figure 13.** Nuclear configuration for CLLD: L+H\* !H- no-pause.

Truckenbrodt, 2007) while others take the so-called intonational meanings approach (Bartels, 1999; Gussenhoven, 2002; Pierrehumbert and Hirschberg, 1990; Truckenbrodt, 2012). In the prosodic/intonational line of research these two approaches are considered to be coexistent, and not contradictory. In sum, my results may show that both the syntax (construction-type) and the meanings (assuming topic-meaning vs. focus-meaning) of CLLD and FF are evidenced in the intonational contours found. I believe this theoretical approach still provides support for a correlation between syntax and intonation in the way described by López (2009) and Rubio Alcalá (2014, 2016); CLLD vs. FF, syntax-intonation correlation. Further, I think the same discussion challenges the approach taken by B&F (2010) and F&H (2007); meaning (“topic- vs. focus-”) and intonation may be correlated, but these do not correlate to the C-topic, C-focus, and G-topic categories.



**Figure 14.** Nuclear configuration for FF: L+H\* L- no-pause

## 7. Limitations and Further Research

Even though the findings reviewed in the previous paragraphs seem straight forward, having only four items per condition is a limiting factor. It would be difficult to increase the number of items per condition in production, since the participants' tiredness could become a random factor in the results, which would be difficult to identify and measure. However, there are other tasks that can be adapted to test intonation and allow for a larger number of items. Some examples along these lines would be an Aural Judgment Acceptability Task (e.g. Stefanich in progress) or an Aural Forced-choice Task (e.g. Delgado in progress). Even though this tasks are meant to test perception, a combination of perception and production tasks (Grüter and Crago 2010; Grüter et al. 2012) could provide more information than one task type alone.



A second limitation is related to the methods and language used in this chapter. The results I present support the syntactic approach to intonation (based on Feldhausen, 2016). Interestingly, both Feldhausen and myself use the same methodology and the same language. Laboratory oral data can be problematic since speakers may tend to repeat the same patterns, showing results as consistent as the ones I show in Section 5. While this type of data provides the type of utterances the researchers is looking for, this may not provide a completely natural output (Face, 2003; Rao, 2007). One cannot stop from wondering what would happen if I would have replicated F&H (2007), using the Italian left periphery as test case and analyzing data from oral corpora. Would that type of data show replicate F&H's findings?

A third limitation is the scope of the conclusions that can be reached from intonational data alone. Ideally, this project would make claims about the structure of the language faculty. Future stages of this project (Sequeros-Valle in progress) will analyze whether different syntactic constructions pattern to certain discourse functions (B&F 2010; F&H 2007; López 2009, and many more), or whether syntactic constructions are used without any pragmatic constraint (Rubio Alcalá 2014, 2016). Intonational and syntactic data together could provide stronger arguments for or against the role of pragmatics and discourse in the human language faculty. However, claims of this fashion cannot be made at this point.

## 8. Conclusion

In sum, this chapter was an attempt to discover whether discourse function (B&F 2010; F&H 2007) or construction type (Feldhausen 2016) are predicting factors for intonational patterns in the left periphery. 12 native Spanish speakers from the Madrid-area, Spain participated in a scripted production task (based on Feldhausen) with three conditions: Contrastive-FF, contrastive-

CLLD, and familiar-CLLD. Results indicate a pattern by construction type, with FF showing a “L+H\* L- no-pause” nuclear configuration, and CLLD showing a “L+H\* !H- no-pause” nuclear configuration. These results support Feldhausen’s syntactic approach to intonation, while they challenge B&F’s and F&H’s pragmatic hypothesis. Future stages of the project will include syntactic evidence, and will attempt to make larger claims about the role of pragmatics in the human language faculty (Sequeros-Valle in progress).

PDF PROOF

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**Data Availability:** Please contact the author to gain access to the full data set on which he bases his claims.

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## APPENDICES

### Appendix A – Background Questionnaire

#### HISTORIAL DEL PARTICIPANTE

_____ Nombre		_____ Apellidos	
_____ Edad	_____ Género		
_____ Lugar de Nacimiento/Infancia		_____ Lugar de Residencia	_____ Años en Lugar de Residencia
_____ Nivel Educativo			
¿Hablas castellano?	Sí	No	¿Desde qué edad? _____
¿Hablas otras lenguas?	Sí**	No*	

\*NOTA 1: Si no hablas otras lenguas, para aquí.

---

\*\*NOTA 2: Si hablas otras lenguas, continúa. Ordena las lenguas de la que mejor hablas hasta la que peor hablas.

LENGUA 2: \_\_\_\_\_

LENGUA 3: \_\_\_\_\_

LENGUA 4: \_\_\_\_\_

*Continúa en las siguientes páginas...*

## Appendix B – Bilingual Language Profile

**Historial Lingüístico:** Responda con un número. Deje el espacio en blanco para las lenguas que no habla.

1. ¿A qué edad empezó a aprender las siguientes lenguas?

L2: \_\_\_\_\_

L3: \_\_\_\_\_

L4: \_\_\_\_\_

2. ¿A qué edad empezó a sentirse cómodo usando las siguientes lenguas?

L2: \_\_\_\_\_

L3: \_\_\_\_\_

L4: \_\_\_\_\_

3. Cuántos años de clases (gramática, historia, matemáticas, etc.) ha tenido en las siguientes lenguas (desde la escuela primaria a la universidad)?

L2: \_\_\_\_\_

L3: \_\_\_\_\_

L4: \_\_\_\_\_

4. ¿Cuántos años ha pasado en un país/región donde se hablan las siguientes lenguas?

L2: \_\_\_\_\_

L3: \_\_\_\_\_

L4: \_\_\_\_\_

5. ¿Cuántos años ha pasado en familia hablando las siguientes lenguas?

L2: \_\_\_\_\_

L3: \_\_\_\_\_

L4: \_\_\_\_\_

6. ¿Cuántos años ha pasado en un ambiente de trabajo donde se hablan las siguientes lenguas?

L2: \_\_\_\_\_

L3: \_\_\_\_\_

L4: \_\_\_\_\_

**Uso de Lenguas:** Responda con un porcentaje; asumimos que el resto hasta 100% sería castellano. Deje el espacio en blanco para las lenguas que no habla.

En una semana normal, ¿qué porcentaje del tiempo usa las siguientes lenguas...

7. ...con sus amigos?

L2: \_\_\_\_\_

L3: \_\_\_\_\_

L4: \_\_\_\_\_

8. ...con su familia?

L2: \_\_\_\_\_

L3: \_\_\_\_\_

L4: \_\_\_\_\_

9. ...en la escuela/el trabajo?

L2: \_\_\_\_\_

L3: \_\_\_\_\_

L4: \_\_\_\_\_

10. Cuando se habla a usted mismo, ¿con qué frecuencia se habla a sí mismo en las siguientes lenguas?

L2: \_\_\_\_\_

L3: \_\_\_\_\_

L4: \_\_\_\_\_

11. Cuando hace cálculos contando, ¿con qué frecuencia cuenta en las siguientes lenguas?

L2: \_\_\_\_\_

L3: \_\_\_\_\_

L4: \_\_\_\_\_

**Competencia Lingüística:** De 0 (muy mal) a 6 (muy bien), indique tu nivel en cada lengua. Deje el espacio en blanco para las lenguas que no hablas.

12. ¿Cómo hablas en las siguientes lenguas?

L2: \_\_\_\_\_

L3: \_\_\_\_\_

L4: \_\_\_\_\_

13. ¿Cómo entiendes en las siguientes lenguas?

L2: \_\_\_\_\_

L3: \_\_\_\_\_

L4: \_\_\_\_\_

14. ¿Cómo lees en las siguientes lenguas?

L2: \_\_\_\_\_

L3: \_\_\_\_\_

L4: \_\_\_\_\_

15. ¿Cómo escribes en las siguientes lenguas?

L2: \_\_\_\_\_

L3: \_\_\_\_\_

L4: \_\_\_\_\_

**Actitudes Lingüísticas:** Marque con una x donde corresponda. Si la respuesta es “no” o si no habla alguna de las lenguas, deje el espacio en blanco.

16. Me siento "yo mismo" cuando hablo en las siguientes lenguas:

CASTELLANO: \_\_\_\_\_

L2: \_\_\_\_\_

L3: \_\_\_\_\_

L4: \_\_\_\_\_

17. Yo me identifico con las siguientes culturas:

CASTELLANO: \_\_\_\_\_

L2: \_\_\_\_\_

L3: \_\_\_\_\_

L4: \_\_\_\_\_

18. Es importante para mí usar (o llegar a usar) las siguientes lenguas como un hablante nativo:

CASTELLANO: \_\_\_\_\_

L2: \_\_\_\_\_

L3: \_\_\_\_\_

L4: \_\_\_\_\_

19. Quiero que los demás piensen que soy un hablante nativo de las siguientes lenguas:

CASTELLANO: \_\_\_\_\_

L2: \_\_\_\_\_

L3: \_\_\_\_\_

L4: \_\_\_\_\_

## Appendix C – Description of the Participants

ID	Age	Gender	Education	% Life in Spain	BLP %
Group	$M = 37.75$ ( $SD = 16.66$ ) [18 – 62]	Female = 6 Male = 6	Graduate School = 1 Undergraduate = 6 High School = 5	$M = 99.00\%$ ( $SD = 0.02\%$ ) [95.4% - 100%]	$M = 93.00\%$ ( $SD = 0.09\%$ ) [78.9% - 100%]
01	28	Female	Graduate School	100%	100%
02	18	Female	High School	100%	100%
03	55	Female	High School	100%	100%
04	22	Male	College	95.45%	84.00%
05	28	Male	College	96.43%	79.36%
06	62	Male	High School	100%	100%
07	58	Female	College	100%	91.97%
08	35	Male	College	100%	78.90%
09	43	Female	College	100%	100%
10	28	Male	College	100%	100%
11	18	Male	High School	100%	82.80%
12	58	Female	High School	100%	100%

## Appendix D –Stimuli

### Instrucciones

¡Muchas gracias por participar en este experimento! Vamos a ensayar diálogos para una obra de teatro. El objetivo es conseguir que los diálogos suenen de la manera más natural posible.

Primero, lee en silencio el contexto, y las dos líneas de diálogo de dos personajes. Asegúrate que lo entiendes todo.

Segundo, avisa al investigador. Él/ella dirá el número de diálogo en voz alta. Y entonces...

Tercero, lee las líneas de ambos personajes en voz alta. NO LEAS EL CONTEXTO.

### Diálogos de Práctica

#### DIÁLOGO DE PRÁCTICA 1.

CONTEXTO: Ana es una fanática de Los del Río.

- ¿Qué hace Ana en su tiempo libre?
- Ana escucha mucha música de Los del Río.

#### DIÁLOGO DE PRÁCTICA 2.

CONTEXTO: Carmen come todos los días en Casa Pepe.

- ¿En qué restaurante come Carmen normalmente?
- Carmen siempre va a Casa Pepe. ¡Será maniática la tía!

#### DIÁLOGO DE PRÁCTICA 3.

CONTEXTO: José va a la sierra cada verano.

- ¿Dónde va José de vacaciones?
- José se pasa el verano entero en la sierra.

### Condition 1: Contrastive-FF

#### DIÁLOGO 1.

CONTEXTO: María y Bárbara están cantando, y te encanta como canta Bárbara. Quieres corregir a tu amigo.

- Te quedas embelesado cuando canta María, macho.
- ¡No! ¡A Bárbara escucho, no a María!

## DIÁLOGO 2.

CONTEXTO: Siempre andas buscando a José por la oficina, pero hoy buscas a Águeda. Quieres corregir a tu amigo.

- Si buscas a José, hoy no está.
- ¡No! ¡A Águeda busco, no a José!

## DIÁLOGO 3.

CONTEXTO: Haces de niñero de tu sobrino Álvaro de vez en cuando, pero nunca de Isabel. Quieres corregir a tu amigo.

- ¿Ya te han confirmado si cuidas a Isabel?
- ¡No! ¡A Álvaro cuido, no a Isabel!

## DIÁLOGO 4.

CONTEXTO: Eres el entrenador de boxeo de Rómulo, pero no de Juan. Quieres corregir a tu amigo.

- ¿Cómo va Juan con el boxeo?
- ¡No! ¡A Rómulo entreno, no a Juan!

**Condition 2: Contrastive-CLLD**

## DIÁLOGO 5.

CONTEXTO: Tienes felicitaciones pendientes para Álvaro y Ana.

- ¿Por qué felicitas a esos dos?
- A Álvaro le felicito por su boda, y a Ana por su cumpleaños.

## DIÁLOGO 6.

CONTEXTO: Tu amigo va a conocer a Águeda y a Manuel, y quiere prepararse para las presentaciones.

- ¿Como te saludas con tus amigos normalmente?
- A Águeda la beso en la mejilla, y a Manuel le doy la mano.

## DIÁLOGO 7.

CONTEXTO: Eres un detective y estás investigando a dos sospechosos; Rómulo y Carmen.

- Ascensorista, ¿a qué piso sube a esos dos normalmente?
- A Rómulo le subo al tercero, y a Carmen al quinto.

## DIÁLOGO 8.

CONTEXTO: Te has quedado mirando a Bárbara y a Antonio, y un amigo tuyo se ha dado cuenta.

- ¿Qué andas mirando a esos dos?
- A Bárbara la miro los ojos, y a Antonio esas orejotas.

**Condition 3: Familiar-CLLD**

## DIÁLOGO 9.

CONTEXTO: Un amigo te pregunta sobre tu prima Águeda.

- ¿Cuándo ves a Águeda?
- A Águeda la veo los fines de semana.

## DIÁLOGO 10.

CONTEXTO: Tu amigo y tú necesitáis ayuda de un tal Álvaro.

- ¿Cómo vas a convencer a Álvaro?
- A Álvaro le manipulo cuando quiera.

## DIÁLOGO 11.

CONTEXTO: Te encanta la gata Bárbara, que es de tu primo.

- ¿Por qué eres tan sobón con Bárbara?
- A Bárbara la acaricio porque es muy bonita.

## DIÁLOGO 12.

CONTEXTO: Rómulo es el nuevo en la empresa, y le preguntas a tu jefe:

- Jefe, ¿dónde ponemos a Rómulo?
- A Rómulo le necesito en la máquina.

**Fillers: Broad Focus**

## DIÁLOGO 13.

CONTEXTO: A Bárbara le gusta la música.

- ¿Qué le gusta a tu amiga Bárbara?
- Bárbara es una fanática de la música.



## DIÁLOGO 14.

CONTEXTO: Águeda se aburre en el trabajo.

- ¿Cómo le va a Águeda en el trabajo?
- Águeda está muy aburrida, la verdad.

## DIÁLOGO 15.

CONTEXTO: Álvaro es un fanático de los coches.

- ¿Qué le gusta a tu amigo Álvaro?
- Álvaro está obsesionado con los coches.

## DIÁLOGO 16.

CONTEXTO: Rómulo está embobado con su hijo.

- ¿Cómo le va la vida a Rómulo?
- Rómulo está embobado con su bebé.

## DIÁLOGO 17.

CONTEXTO: A Álvaro le encanta jugar al fútbol.

- ¿Qué hace Álvaro en su tiempo libre?
- Álvaro anda siempre jugando al fútbol.

## DIÁLOGO 18.

CONTEXTO: Tu amigo y tú tenéis dudas sobre Águeda, a quien acabáis de conocer.

- ¿Qué piensas de Águeda?
- Águeda me mal rollo, la verdad.

## DIÁLOGO 19.

CONTEXTO: Rómulo está interesado en la política.

- ¿Qué sabes de Rómulo?
- Rómulo anda siempre hablando de política, por lo visto.

## DIÁLOGO 20.

CONTEXTO: Tu amigo te pide opinión sobre su nueva novia, Bárbara.

- ¿Qué piensas de Bárbara?
- Bárbara es un poco imbécil, si quieres que te diga la verdad.

## DIÁLOGO 21.

CONTEXTO: Tu amigo te pregunta sobre Águeda.

- ¿Qué le pasa a Águeda?
- Águeda se ha quemado en la playa.

## DIÁLOGO 22.

CONTEXTO: Álvaro está de visita por Madrid por primera vez.

- ¿Qué piensa Álvaro de la ciudad?
- Álvaro está encantado de haber venido.

## DIÁLOGO 23.

CONTEXTO: Bárbara tiene trabajo ahora, pero con un contrato temporal.

- ¿Cuándo termina el contrato de Bárbara?
- Bárbara va a estar con nosotros otros dos meses más.

## DIÁLOGO 24.

CONTEXTO: Rómulo está a punto de conseguir un ascenso.

- ¿Cuándo le van a dar el ascenso a Rómulo?
- Rómulo va a ser ascendido en un par de semanas.