

# TWO LANGUAGES, TWO INTONATIONS? STATEMENTS AND YES/NO QUESTIONS IN SPANISH AND BASQUE

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## 1. Introduction<sup>1</sup>

One of the characteristics of yes/no questions in Spanish is that intonation may be the only indicator that makes them different from statements (Hualde 2005). It is well known that most Spanish varieties make use of final F0 rises (H%) from a low point on the last stressed syllable to indicate that the utterance is a yes/no question (Navarro Tomás 1974, Quilis 1987, 1988, Sosa 1999, Hualde 2005, Prieto and Roseano 2010, López-Bobo and Cuevas-Alonso 2010, Astruc *et al.* 2010 and Ortiz *et al.* 2010 *inter alia*). Nevertheless, it is the case that certain varieties make use of low boundary tones to express this pragmatic meaning. Some examples are Argentinian Spanish (Gabriel *et al.* 2010), Cantabrian Spanish (López-Bobo and Cuevas-Alonso 2010), Castilian Spanish (Estebas-Vilaplana and Prieto 2010), Cuban and Canarian Spanish (Dorta *et al.* 2011) and Bilbao Spanish (Robles-Puente, 2011a). This last variety is spoken in the Basque Country, an area in the north of Spain that is linguistically relevant due to the contact situation between Spanish and Basque.

## 2. The Study

This study concentrates on the productions of yes/no questions as well as statements in Spanish and two varieties of Basque. According to Cenoz (2005), 24.7% of the inhabitants in the Basque Country are bilingual (Spanish/Basque) and 16.3% are passive bilinguals. The main goal of the current study is to determine if there are any differences in the production of statements and yes/no questions in Spanish by groups with different language backgrounds (Spanish monolinguals, passive bilinguals and Spanish/Basque bilinguals). The study will also determine whether statements and yes/no questions in Basque and Spanish have similar intonational configurations among young speakers.

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## 2.1. Participants and methodology

Five speakers (Table 1) took part in the experiment: One Spanish monolingual (subject A), two passive bilinguals (subjects B and C) and two Spanish/Basque bilinguals (subjects D and E).<sup>2</sup> All of them were recorded in Bilbao (Basque Country, Spain).

Table 1  
Study participants

	Language	City	Age	Sex
Subject A	Spanish monolingual	Bilbao	25	Male
Subject B	Passive bilingual (Spanish/Batua)	Barakaldo	24	Female
Subject C	Passive bilingual (Spanish/Batua)	Galdakano	27	Female
Subject D	Spanish / Gernika Basque bilingual	Gernika	29	Female
Subject E	Spanish / Gernika Basque bilingual	Gernika	26	Male

Their task was to provide a natural response to a given situation presented by the experimenter on a laptop screen. Responses in Spanish were statements (1) and yes/no questions (2) consisting of a verb and another word (normally with an article) following:

¿Qué hacía Marina? 'What was Marina doing?'  
(1) Response: *Miraba la mano* 'She was looking at the hand'

Quieres saber si Marina miraba la mano. ¿Qué le preguntas a tu amigo?  
'You want to know if Marina was looking at the hand. What do you ask your friend?'  
(2) Response: *¿Miraba la mano?* 'Was she looking at the hand?'

The structure of the sentences in Basque was necessarily modified due to the different word orders in Spanish and Basque (SVO vs. SOV). Sentences consisted of a word (either a direct object or a prepositional phrase) and a verb in its auxiliary form. The reason to include only auxiliaries was to have sentences of comparable lengths in both languages.

All the participants produced fourteen sentences in Spanish with the two pragmatic meanings (statement and yes/no question). Passive bilinguals and Spanish/Basque bilinguals also produced twenty-four and sixteen sentences in Basque, respectively.<sup>3</sup>

<sup>2</sup> As Cenoz (2008) points out, there are practically no Basque monolinguals. Young speakers were selected in order to determine what the current status of the varieties under study is.

<sup>3</sup> Numbers varied because some of the sentences in Basque were not comparable due to different word choices by the participants.

## 2.2. Results

### 2.2.1. Statements in Spanish

The intonational configurations of statements confirm previous descriptions of these kinds of sentences in Peninsular Spanish (Beckman *et al.* 2002, Hualde 2005 *inter alia*): There is a pitch rise in the first stressed syllable but the maximum F0 value is located in the post-tonic syllable (L+ > H\* and L\* + H only in a few cases). The nuclear pitch-accent has a smaller pitch rise and a lower pitch overall but the F0 peak is located within the limits of the stressed syllable (L + H\*). The nuclear pitch-accent is followed by a low boundary tone (L%). To capture the gradual pitch fall and following the aforementioned studies I use the symbol “!” to mark downstep. In Figure 1 an example of this configuration is presented (capital letters mark stressed syllables).

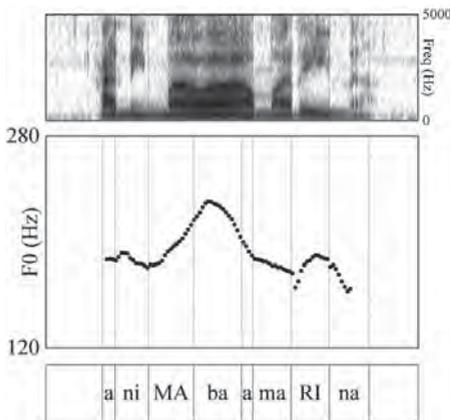


Figure 1

Subject C

Animaba a Marina – He was cheering  
Marina up

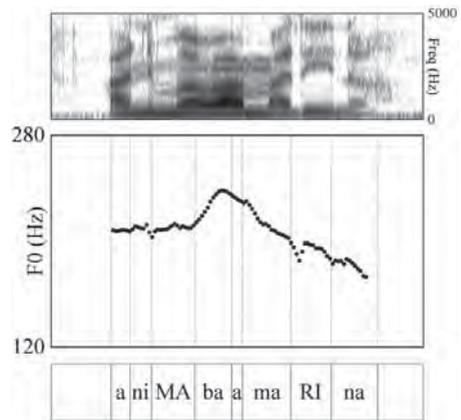


Figure 2

Subject B

Animaba a Marina – He was cheering  
Marina up

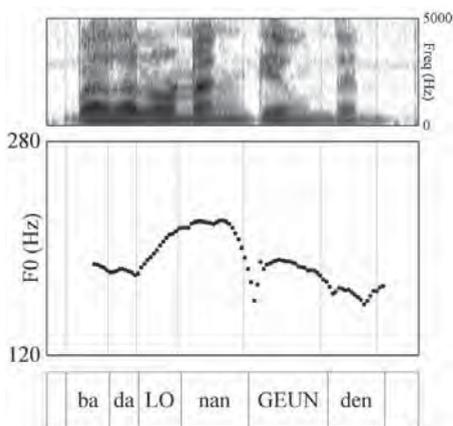
This configuration was always used by Speaker A, Speaker C, Speaker D and Speaker E; however, Speaker B did not show F0 rises in the nuclear pitch-accent (L\*). Hualde (2005), Estebas-Vilaplana and Prieto (2010) and Robles-Puente (2011b) notice that this pattern can also be attested in Peninsular Spanish. Figure 2 shows an example.

### 2.2.2. Statements in Basque

As Table 1 shows, two different varieties of Basque were considered in the study: Batua Basque (a.k.a. Standard Basque) and Gernika Basque. Elordieta *et al.* (1999) point out that “the standard dialect cannot be studied, because there is no com-

monly agreed-on prosody (the Academy of the Basque language has not provided any rules or guidelines in this domain)". Thus, this dialect was included to provide at least a preliminary description of its main intonational characteristics in the northern area of Bizkaia. The Gernika dialect is considered part of the so called Getxo-Gernika variety (Elordieta *et al.* 1999, Hualde 2006) which includes the varieties spoken in Northern Bizkaia (except Standard Basque). Its main characteristic is that pitch is lexically distinctive since it can distinguish between accented and unaccented words. The Gernika variety is also interesting due to the intense contact with Spanish.

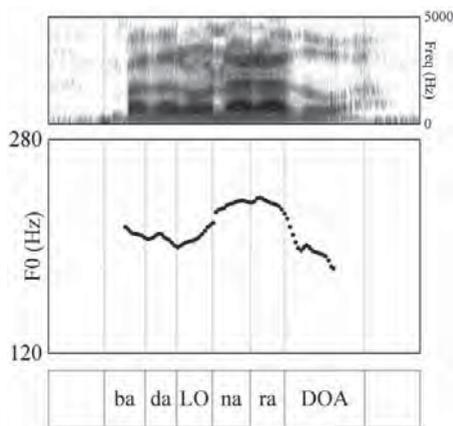
Passive bilinguals (Subjects B and C) attended bilingual schools (Spanish/Basque) for over 15 years; nevertheless, although they can speak and understand Basque perfectly, they consider Spanish their mother tongue. They also recognized that they barely use Batua Basque at home or with their friends. Probably due to this fact, the intonational patterns of their productions in Basque were identical to those in Spanish. Pre-nuclear pitch-accents had a  $L+ > H^*$  pattern and nuclear configurations were  $L + H^* L\%$  (Figure 3) and  $L^* L\%$  (Figure 4) respectively.



**Figure 3**

Speaker C

Badalonan geunden – We were in Badalona



**Figure 4**

Speaker B

Badalonara doa – He goes to Badalona

Subject D's and most of Subjects E's utterances follow previous descriptions of dialects belonging to the Gernika-Getxo type (Elordieta *et al.* 1999, Hualde 2006). As pointed out in Hualde *et al.* (2002) and Elordieta *et al.* (1999), Northern Bizkaian dialects show a rise early in the phrase and a high plateau derived from an initial %LH- and a  $H^* + L$ . The pitch falls after the accented syllable has been reached. When the word is unaccented, there is no pitch-accent unless it is in a phrase-final preverbal position or the synthetic verb following is accented. In these situations, a derived accent falls in the last syllable of the word. Both cases are exemplified in Figures 5 and 6 since the word "Badalona" is treated differently by both speakers. While Subject E (Figure 6) preserves the original Spanish stress in -lo- and consequently the

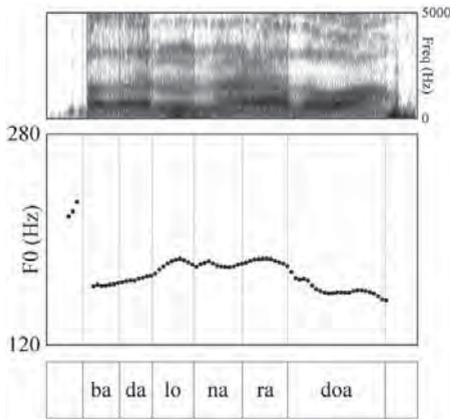


Figure 5

Subject D

Badalonara doa – He is going to Badalona

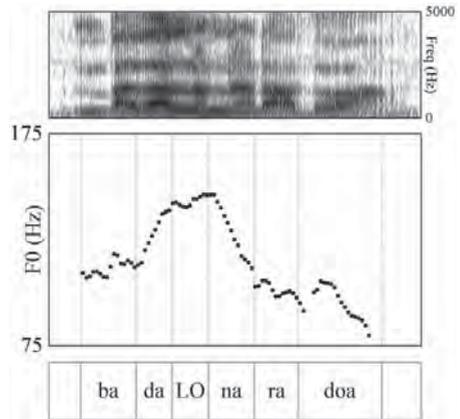


Figure 6

Subject E

Badalonara doa – He is going to Badalona

pitch falls right after it (i.e. in *-na-*), Subject D (Figure 5) treats this word as unaccented and the pitch does not fall until the end of the word (where *-ra* has a derived accent). Nevertheless, both subjects show F0 rises that do not correspond to those produced in Batua Basque or Spanish. Notice that the F0 in Figures 3 and 4 starts rising always in *-LO-* (the accented syllable), while in Gernika Basque the rise happens much earlier due to the %LH- boundary tone.

Interestingly, in two of the utterances, Subject E transferred the tonal configuration of Spanish to Basque, producing pitch contours very similar to those in Batua Basque (and Spanish) as shown in Figure 7.

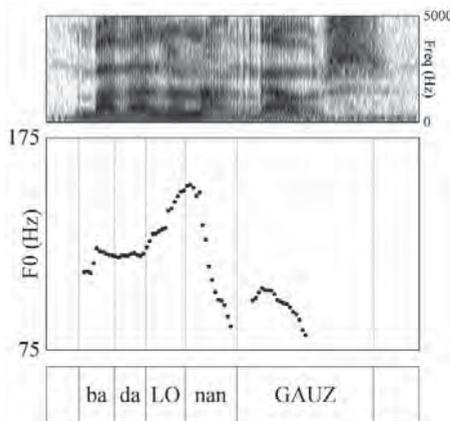


Figure 7

Subject E

Badalonan gauz – We are in Badalona

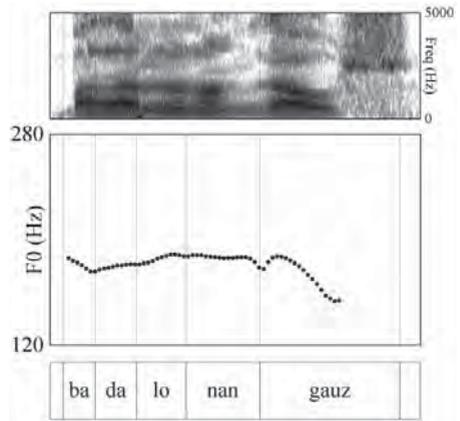


Figure 8

Subject D

Badalonan gauz – We are in Badalona

In addition, although synthetic verbs like “doa” (goes) are supposed to be lexically marked and therefore accented, there was variation.<sup>4</sup> Auxiliary verbs produced by Subject E tended to show more pitch movements than those by Subject D. For example, in Figure 5, “doa” does not show significant pitch movements while in Figure 6 it has a clear rise and fall. Similarly, “gauz” shows a clear fall in Figure 8 but a rise and a fall in Figure 7. It has to be pointed out that Subject D produced clear rises and falls in all the words in final position in Spanish sentences and therefore the lack of F0 movements only happened in her Basque productions. As I will demonstrate in section 2.2.4, variation in the accentuation was present in yes/no questions in Basque as well.

### 2.2.3. Yes/No Questions in Spanish

The patterns found in yes/no questions in Spanish resemble those presented in Robles-Puente (2011a). Although in that study a few instances of L\* + H and unaccented pre-nuclear syllables are found, in the current study pre-nuclear pitch-accents are always L+ > H\*.<sup>5</sup> Nuclear pitch-accents show a F0 rise from the stressed syllable but the maximum height is reached in the post-nuclear syllable as captured in Figure 9 and Figure 10.<sup>6</sup> As discussed in Robles-Puente (2011a), the late alignment is

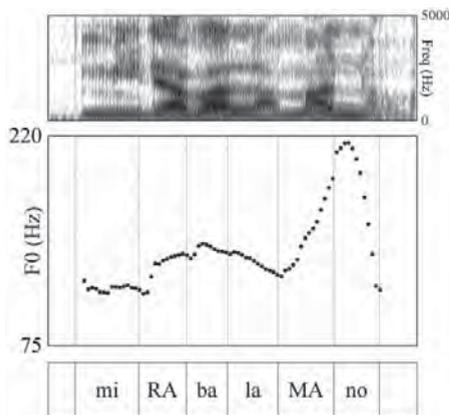


Figure 9

Subject E

¿Miraba la mano? – Was he looking  
at the hand?

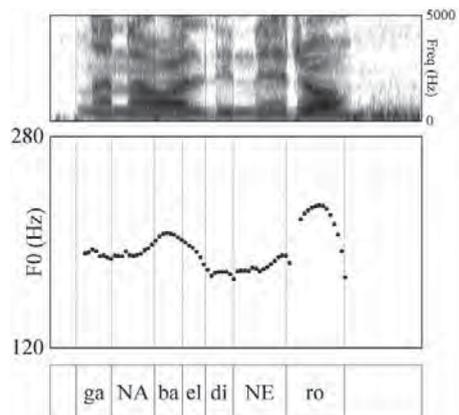


Figure 10

Subject D

¿Ganaba el dinero? – Was he earning  
the money?

<sup>4</sup> Elordieta (p.c.) points out that the synthetic form should be “doie” or “doia” and that “doa” is probably produced due to a Batua influence.

<sup>5</sup> As suggested in Robles-Puente (2011a), variation may be possible due to the perceptual importance of the nuclear pitch-accent and the boundary tone over the pre-nuclear pitch-accent.

<sup>6</sup> Subject C produced two yes/no questions with a L + H\* LH% nuclear configuration. This configuration has also been noted in counterexpectational yes/no questions in Castilian Spanish (Estebas-Vilaplana and Prieto 2010) and Chilean Spanish (Ortiz *et al.* 2010).

caused by a high tone in the boundary tone (L + H\* HL%). Gabriel et al. (2010), López-Bobo and Cuevas-Alonso (2010) and Estebas-Vilaplana and Prieto (2010) have also analyzed similar configurations as L + H\* HL% or L + ;H\* HL%.

#### 2.2.4. Yes/No Questions in Basque

Yes/no questions in Basque are produced in a very similar way as Spanish. Subjects B and C show F0 rises in the accented syllable of the auxiliary and the peak is reached in the following syllable to then fall due to the HL% boundary tone (e.g. Figure 11). Interestingly, both Gernika Basque speakers use a similar strategy. However, once again the accentuation of both speakers seems to vary. While Subject D's rises are found always in the last syllable of the auxiliary (see Figure 12 as an example, where the rise starts in -a), Subject E patterned with Batua Basque speakers producing earlier rises (see Figure 13). Pre-nuclear pitch accents have the same patterns as in statements for all subjects (i.e. L+ > H\* for Subjects B and C and the characteristic %LH-H\*L of Gernika Basque for subjects D and E).

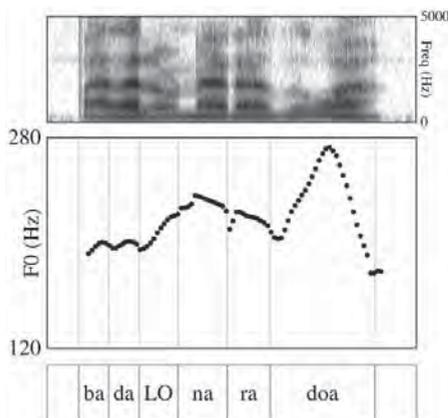


Figure 11

Subject C

Badalonara doa? – Is he going to Badalona?

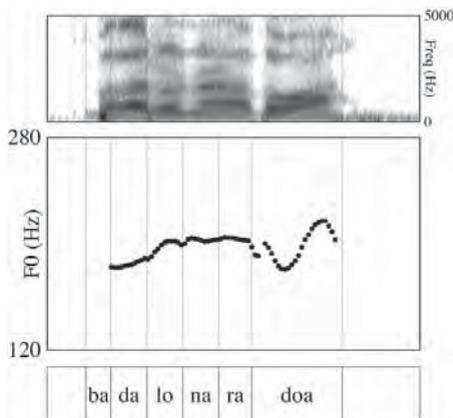


Figure 12

Subject D

Badalonara doa? – Is he going to Badalona?

Thus, different configurations were found. Subjects B and C produced pre-nuclear pitch-accents with the L+ > H\* configuration, while Subjects D and E had a %LH-H\*L one (F0 rise in -lo- vs. F0 rise from the beginning of the sentence); Subject E patterned with B and C in that F0 rises were found at the beginning of the auxiliary, while Subject D showed F0 rises toward the end of the word. Finally, Subject D, treated “Badalona” as an unaccented word, while the rest of the subjects considered it had stress in -lo- (reflected by a rise in Subjects B and C and by a fall in the following syllable in Subject E). Curiously, although in Speaker D's productions the time for F0 to rise and then fall is restricted due to the late rise, yes/no questions still have a circumflex pattern comparable to that in Spanish and all the other productions in Basque.

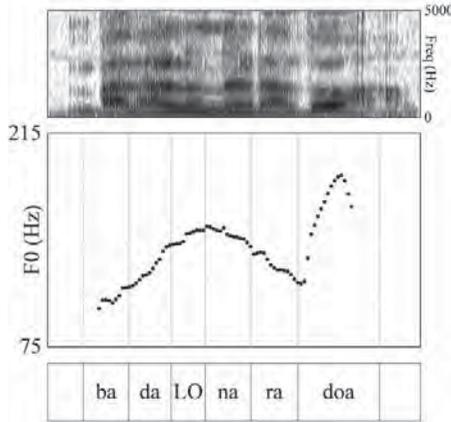


Figure 13  
 Subject E  
 Badalonara doa? – Is he going to Badalona?

**3. Discussion: Statements and Yes/No Questions Compared**

There are two main differences between statements and yes/no questions in Spanish. First, although the pre-nuclear pitch-accents are very similar, the alignment of nuclear pitch-accents is different. In statements, the highest F0 point is located within the limits of the nuclear syllable while in yes/no questions it is in the following syllable. Figure 14 shows the schematic representation of both alignments.

The second main difference between both types of sentences is the height of the nuclear pitch-accent. The high tone in the complex boundary tone (HL%) of the yes/no question makes the nuclear pitch-accent bear higher F0 values than in

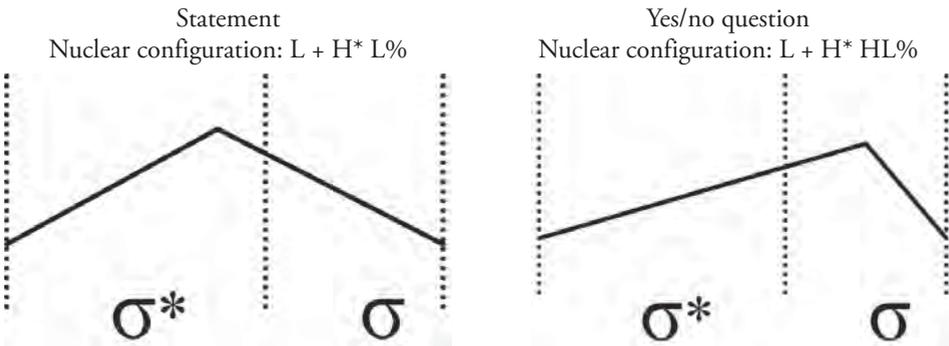


Figure 14  
 Schematic representation of the F0 peak alignments  
 in statements and yes/no questions

statements. The F0 values were measured at five different points in every sentence:<sup>7</sup> a) the beginning of the F0 rise in the pre-nuclear pitch-accent, b) the F0 peak in the pre-nuclear pitch-accent c) the beginning of the F0 rise in the nuclear pitch-accent, d) the F0 peak in the nuclear pitch-accent and e) the F0 value at the end of the sentence. Figure 15 shows the average F0 values in Hz of the five subjects in statements and yes/no questions in Spanish:

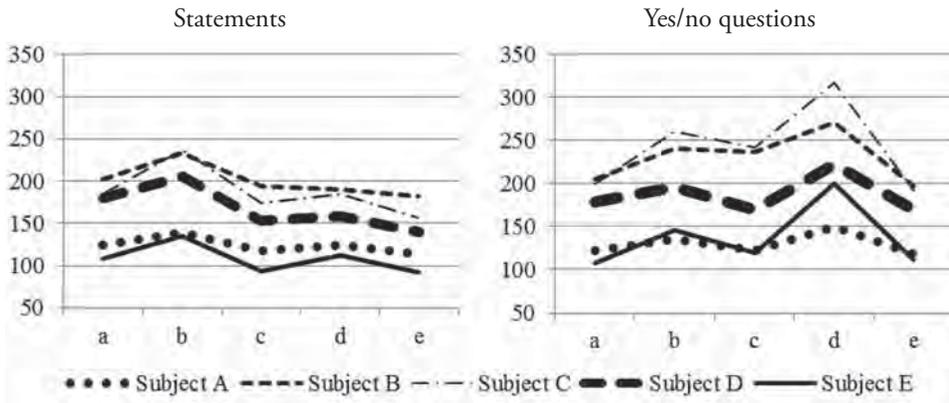


Figure 15

Average F0 values  
in statements and yes/no questions in Spanish

If statements and yes/no questions are compared in Figure 15, it is obvious that yes/no questions show higher F0 values in their nuclear pitch-accents. This results in a circumflex contour where the pre-nuclear pitch-accent has lower F0 values than the nuclear pitch-accent. A Wilcoxon signed-rank test confirmed this observation by revealing that significant differences ( $p < .05$ ) existed between points (c), (d) and (e) in statements and yes/no questions but not between points (a) and (b). The contrast in peak alignments between statements and yes/no questions in Basque (for Subject B, Subject C) is the same as in Spanish. In addition, the contours obtained with the average F0 values in Basque sentences by subjects B and E resemble those in Figure 14. A Wilcoxon signed-rank test revealed that significant differences ( $p < .05$ ) existed again between points (c), (d) and (e) in statements and yes/no questions. Thus, yes/no questions seem to be produced with a higher pitch especially towards the end of the sentence in both Spanish and Batua Basque.

Subject D's and most of Subject E's statements clearly contrast with those produced by the other two Basque speakers in various aspects. First, the rise of the F0

<sup>7</sup> In the case of Subject B, point (c) was located at the beginning of the last accented syllable of the sentence; point (d) was in the middle of the stressed syllable and point (e) at the end of the utterance. The reason to analyze the utterances this way was to capture that there were no rises, but F0 falls throughout the nuclear pitch-accent.

tends to be at the beginning of the sentence (although it can have different shapes as pointed out by Hualde *et al.* 2002) while speakers B and C constantly show rises from the valley of the stressed syllable. Hualde *et al.* (2002) also notice this difference in the way Northern Bizkaian and Spanish convey lexical prominence. Synthetic verbs produced by Subject D are generally unaccented and therefore there are no notable F<sub>0</sub> rises as shown in Figures 5 and 8. In contrast, Basque utterances produced by other subjects had F<sub>0</sub> rises and falls within the limits of the last stressed syllable just like in their Spanish productions (except Subject B who showed only F<sub>0</sub> falls as discussed before). This point is important due to the contrast found in yes/no questions. As can be noticed by looking at the questions in Figures 12 and 13, Subjects D and E produced pre-nuclear pitch-accents with the characteristic %LH- pattern of Bizkaian dialects also found in statements. It has to be pointed out that, like for the rest of the subjects, F<sub>0</sub> values tended to be higher in yes/no question than in statements as well. It is also relevant that flat pitch tracks at the end of the statements were substituted with the rising-falling pattern also found in Spanish yes/no questions. Since the F<sub>0</sub> rises occurred always in the last syllable of the utterances, sometimes F<sub>0</sub> falls were not complete and yes/no questions in Basque showed slightly higher boundary tones than in Spanish.

#### 4. Conclusions and Final Remarks

This study confirms that, although statements in Spanish produced by speakers of the Northern area of Bizkaia (Basque Country) resemble those produced in other Peninsular Spanish varieties (Beckman *et al.* 2002, Hualde 2005), yes/no questions show a characteristic circumflex pattern that ends in a low boundary tone - L + H\* HL% (Robles-Puente 2011a) that contrast with the standard H%. Results also demonstrate that the standard variety of Basque (Batua) not only relies exclusively on intonation to obtain the pragmatic distinction between statements and questions, but also shares the intonational system with Spanish in spite of the fact that word orders in both languages are different. Finally, Gernika Basque speakers show variation. While Subject D showed exclusively intonational configurations characteristic of the Getxo-Gernika variety of Basque (%LH-H\*L), Speaker E patterned sometimes with the Batua speakers. The circumflex pattern found in Spanish yes/no questions is still the same in Gernika Basque though. This was interesting for various reasons. First, it demonstrates that at least young bilingual speakers are using very similar intonational strategies in Spanish and Basque to convey two distinctive pragmatic meanings (statement vs. question). Subject D, who has two clearly different syntactic and intonational systems in Spanish and Basque, still uses the rising-falling configuration at the end of yes/no questions. In addition, although there is no post-nuclear syllable (the rise is always found in the last syllable of the sentence), the fall still happens. Finally, the current study shows evidence of the importance of Spanish as a dominant language in the area as also pointed out in Hualde *et al.* (2002). It is not surprising that the intonational system of Subjects B and C is identical in Spanish and Basque since Basque is their second language. However, Subject E, whose mother tongue is Gernika Basque, shows in some cases pitch contours more similar to those by Subjects B and C than to those by Subject D (the other

Gernika Basque speaker). Although these findings provide evidence that a simplification of the Basque intonational system may be taking place in the area of Gernika (presumably due to Batua or Spanish influence), it is necessary to conduct more research to determine if young speakers tend to preserve the original system like Subject D or also adopt the Spanish one like Subject E. Considering the current data, it is also reasonable to believe that the characteristic rising-falling pattern of yes/no questions in Spanish in the area of Bizkaia is closely related to (non-Standard) Basque. Nevertheless, data from older speakers of Gernika Basque as well as other varieties should be checked to see if they also produce yes/no questions ending in L + H\* HL%.

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