# A Cross-linguistic Comparison Between Spanish and English Intonation of Interrogatives

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## 1. Introduction

"*Human delivery of language will almost certainly be 'intonated', with the pitch rising and falling as we say the words, in a kind of simplified singing*" (Roca & Johnson 1999: 383). Certainly, it can be asserted that people 'sing' when they speak, suggesting that their speech can be analyzed in terms of pitch, stress, intensity, and loudness. All these elements are dealt in the study of intonation. It is defined as the "*use of suprasegmental phonetic features to convey 'postlexial' or sentence-level pragmatic meanings in a linguistically structured way*" (Ladd 2008: 4).

Given that different patterns of intonation can convey distinct meanings in a sentence-level, the study of this field appeals to all areas of linguistics. For instance, pragmatically the same phrase could convey contrastive meanings if uttered with a distinct intonation. In terms of Second Language Acquisition, it appears to be crucial for learners to acquire the skill to express and understand patterns of intonation. This is why since the late 1970s study of intonational phonology has increasingly attracted many researchers' attention (Ladd 2008).

Without a doubt, intonation has been extensively dealt in sociolinguistic-related research. It has been found that intonation can be one important linguistic element that identifies a community. This is the case of intonational variation that has originated by the influence of other languages. With the continuous growth of immigrants from Hispanic origins in America, Spanish has become one of the major languages to be compared with English. Carter

(2004), for example, explored the rhythm in Spanish, English and Hispanic English of Spanish speakers in a Hispanic community in North Carolina. His research was based on cross-linguistic comparisons between the Spanish of Spanish monolinguals, and of Spanish-English bilinguals, as well as the English of these same bilinguals. Measuring the duration of syllables in Spanish and English, he found that there is influence of the Spanish on the English of Hispanics. Bilinguals showed an intermediate rhythm production.

Likewise, Thomas and Ericson (2010) studied the intonational difference of Mexican American English. They compared two different Hispanic communities, namely Pearsall, a community in southern Texas and Raleigh, located in North Carolina. They wanted to examine the variation within Mexican American English and the way it is socially exposed to people in these communities. Using the incidence of rising glides as the target structure, different groups according to age and the time of arrival in America were compared. The results demonstrated that intonation can indeed serve as a *quantifiable sociolinguistic variable*. This study concluded that the incidence of rising glides in the intonation of English served as a group identity marker in these Hispanic communities.

Both of these studies reveal that there is indeed influence from L1 in the L2 intonation. Nevertheless, this research has mostly focused on the study of intonation in a sociolinguistic perspective. There appears to be, however, to great extent valuable information regarding the phonological features behind the phenomena of cross-linguistic intonation. Thus, the present research paper will deal more with the phonological rather than the sociolinguistic characteristics of intonation. Moreover, interrogatives will be targeted due to the fact that there is almost no literature addressing this issue, especially on Spanish interrogatives.

A study more attuned to the present research is that of Beckman et al. (2002). This study addresses some of the most important intonational phenomena of Spanish in order to contribute to the preliminary transcription of Spanish ToBI. Even though this research has a different approach to the issue that will be dealt in the present paper, it does provide a comprehensive analysis of Spanish intonation. Moreover, Beckman focuses one complete section on

the intonation of Spanish questions, more specifically Yes-Noquestions (henceforth YNQs). The data presented in this research shows the intonation of two Venezuelan speakers and one Castilian Spanish speaker. When analyzing the utterance of these speakers it was found that the Venezuelan speakers have a different pattern in the intonation in terms of the phrase boundary. While the first two speakers mentioned above show a falling boundary pitch movement, the third speaker (i.e., Castilian speaker) presents a sharp rise at the boundary phrase.

A further study by Lee (2010) demonstrated that Buenos Aires Spanish presents both types of patterns in YNQs, that is, a final rising and falling contour. This study examined the falling pattern since it is used for both declarative and interrogative sentences. It was found that even though the final falling contour is the same for both types of sentences, there are other differences such as the melodic curve at the beginning of the sentence, as well as the high peak of the first pitch accent. In addition, possible pragmatic differences were analyzed between the rising and falling contours of YNQs. Data showed that it was not the final contour that made the variation of pragmatic meaning, but the expanded global pitch range.

These studies reveal some interesting facts about the Spanish intonation of interrogatives. At the same time, this raises questions regarding the influence in the intonation of English as an L2. In English, rising pattern L*H-H% is "*the pattern perceived as most typical or 'basic' in YNQs*" (Schubiger 1958: 62). The counter part of this type of question is the WHQ which has a typically falling pattern H*L-L% (Bartels 1999). This proves to be completely different to Spanish. In the case of YNQs, the patterns mayor may not differ depending on the region where the Spanish comes from. If there are distinctive patterns between Spanish and English interrogatives, they appear to be worth exploring in order to examine which features make them different and in which situations.

## 2. Purpose of the Study

The following research paper is a preliminary study of the different in-

tonational patterns of English and Spanish YNQs and WHQs. It intends to examine the various elements that might influence the English intonation of interrogative sentences by L1 Spanish speakers. Since it is just a preliminary study, only the patterns of the phrase boundaries will be explored.

## 3. Research Questions

This research was conducted in order to respond to the following research questions:

1. What are differences in the patterns of English and Spanish Questions?
2. Does the L1 (Spanish) influence the intonation of English YNQs?
3. Does the L1 influence the intonation of English WHQs?

## 4. Hypothesis

Like previous studies have shown, it was hypothesized that Spanish and English would present distinct rising and falling patterns in the boundary phrase of interrogatives. Especially, WHQs were expected to show the most contrastive patterns. These types of interrogatives were predicted to reveal opposite intonational patterns; falling for English and rising for Spanish. In addition, it was also predicted that there would be complete L1 transfer in the intonation of English interrogatives by the Spanish native speaker. Thus, the Spanish pattern of interrogatives would influence the intonation of English questions. Despite the fact that YNQs were hypothesized would show similar structures due to the underlying similarity of both languages for this type of question, it was uncertain whether Argentinean Spanish speakers would also show final falling contours as suggested in Lee (2010). If this was the case, even YNQs would show differences.

## 5. Target Structure

As previously mentioned, the structures that seem to show great difference in terms of intonation across English and Spanish are interrogatives. There-

fore, the collected data deals specifically with YNQs as well as WHQs.

## 6. Method

A production experiment was conducted in order to collect data from real subjects in a control environment. Two subjects, one Spanish native speaker and one English native speaker (see part VIII) were told to read a total of 15 questions which included 3 default questions and 12 scripted dialogues with interrogatives (see Appendix A for information on stimuli). These included default YNQs such as "Did you open the window?" Participants were only asked to read the sentence as natural as possible. Also part of the stimuli were YNQs in the form of dialogues with a specific focus.

i. A: Did you **open**thewindow?
B: No, I **closed**thewindow.
ii. A: Did you open the **window**?
B: No, I opened the **door**.

In (i) the focus is on the verb, whereas in (ii) the focus is on the object of the verb. Participants were told to read the questions focusing the bolded words. Moreover, subjects read WHQs, also in the form of dialogues with the answer to the questions emphasized in bold. Some of these questions are adaptations to the stimuli in Lieberman and Pierrehumbert (1984).

i. A: Who did Ana come with?
B: Anna came with **Manny**.

Subjects were asked to read the sentence in silence first before actually reading it aloud. For questions within a dialogue, they were instructed to read the answers as well.

The Spanish speaker was also asked to read the translated questions in Spanish. In order to avoid any biases, the Spanish speaker read the English interrogatives first and then the Spanish interrogatives. The English speaker

was only asked to read the English interrogatives.

After collecting the data, each of the recordings were analyzed through PRAAT. Due to the fact that this is only a preliminary study, only the pattern of the rising and falling pitch at the boundary phrase was taken into account. The comparisons were made between the 'control' (i.e., data obtained from the English native speaker, henceforth ENS) and the 'spanish' (i.e., data obtained from Spanish native speaker, henceforth SNS).

First, the defaults of each language were compared. In other words, the same question was compared in English and in Spanish. Second, the production by the ENS and SNS of both types of English interrogatives were compared. Finally the English and Spanish questions uttered by the SNS were contrasted in order to see the differences and similarities in the intonational pattern and explore the L1 influence on the L2.

## 7. Participants

For the purpose of this preliminary study three subjects were asked to read the interrogative sentences. Two subjects were Spanish native speakers, one from Spain and one from Argentina. Both subjects were asked to read English as well as Spanish questions. The third subject was an English native speaker who read only English interrogatives. Since the data collected from the Spanish subject presented a British English accent, and the control data was Standard American English, it was omitted. Therefore, only the Argentinean speaker's data was taken into account. It is important to note that there are different patterns of stress and intonation across all Hispanic regions as demonstrated in previous studies (Beckman et al. 2002, Lee 2010).

## 8. Data Analysis and Results

### *8.1. Comparison of English and Spanish*

When comparing the patterns between English and Spanish interrogatives, there are two different results according to the type of questions. For YNQs, English and Spanish shows the same rising pattern in the final contour.

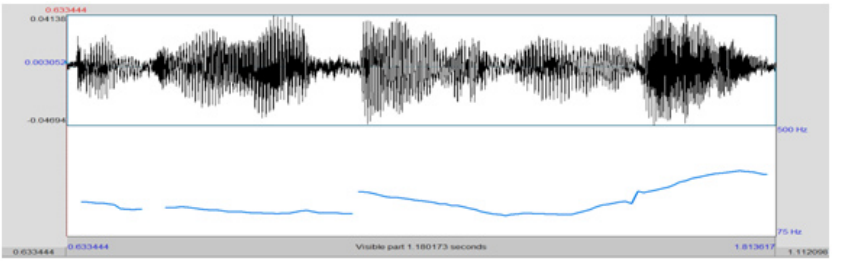


**Figure 1a.** Default questions: *Did you open the window?* Uttered by the ENS.

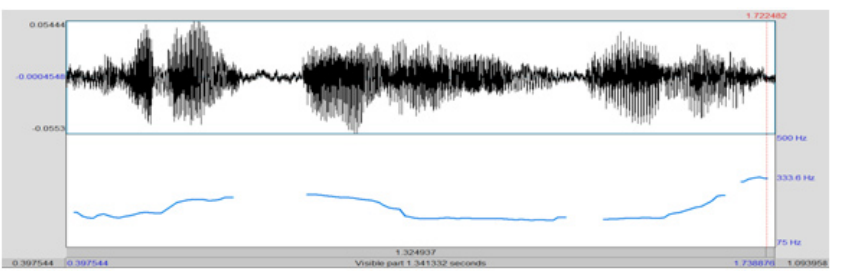


**Figure 1b.** Default Spanish question: *¿Abriste la ventana?* Uttered by SNS.

In terms of YNQs with focus the English speaker seems to place more emphasis on the words in bold. The patterns show that there is a steep fall just before the word that is supposed to be emphasized. However, the Spanish YNQs with focus do not seem to present this emphatic pattern. There is no steep fall before the emphatic word. The emphasis is more obvious in the answer rather than in the question.

For WHQs, the patterns are completely different. The English WHQs show falling patterns in the final contour, while almost all Spanish WHQs show a rising contour. We can see that in Figure 2b the final contour is completely rising. At first sight it seems that the differences in the word order might influence the distinct patterns. While the English question ends with a preposition, the Spanish question does with the word *Ana*.

This may appear to be what influences the difference in intonational pattern. Nevertheless, this is not the case in questions where words like *Ana* come at the end of the question. In figure 2c the word *Manny* which is given

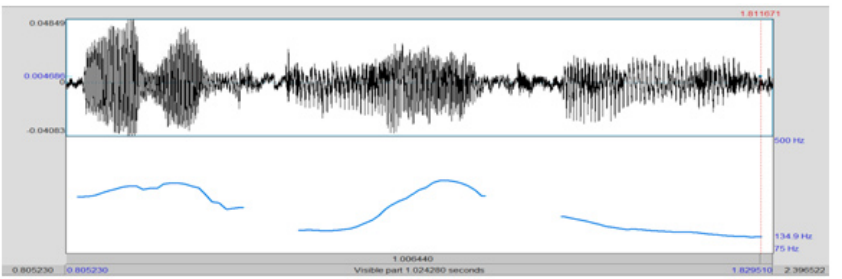


**Figure 2a.** WHQs - *Who did Ana come with?* Uttered by ENS.

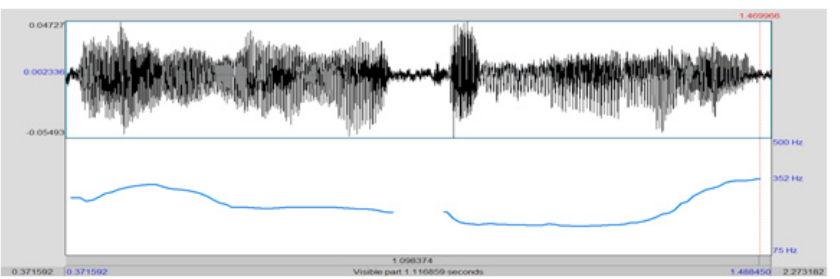


**Figure 2b.** Spanish WHQs - *¿Con quién vino Ana?* Uttered by SNS.

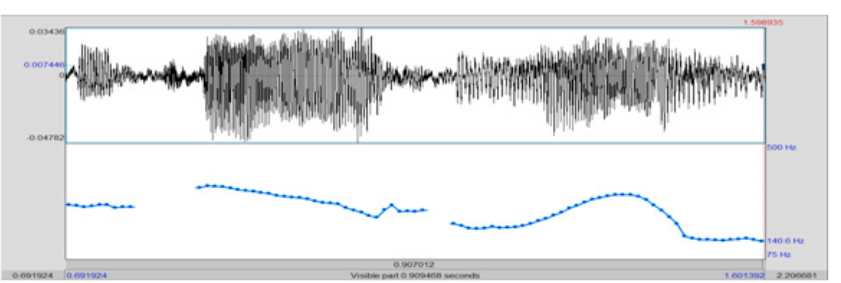


**Figure 2c.** WHQs - Who came with Manny? Uttered by ENS.

prominence appears at the end of the sentence, but the intonational pattern is still falling.

*8.2. Comparison between ENS and SNS*

a) YNQs

When comparing the intonation of YNQS of ENS with that of SNS, it was

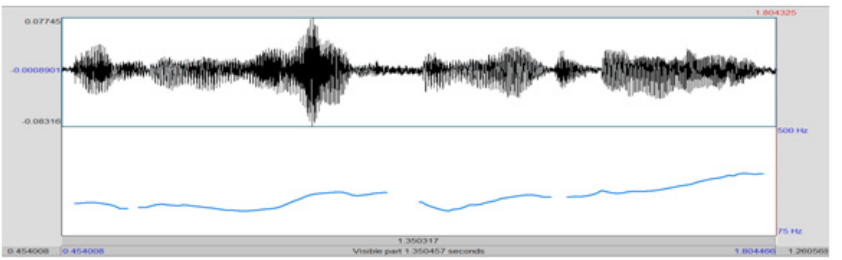


**Figure 3a.** Default YNQs - *Is Maria coming tomorrow?* Uttered by the ENS.

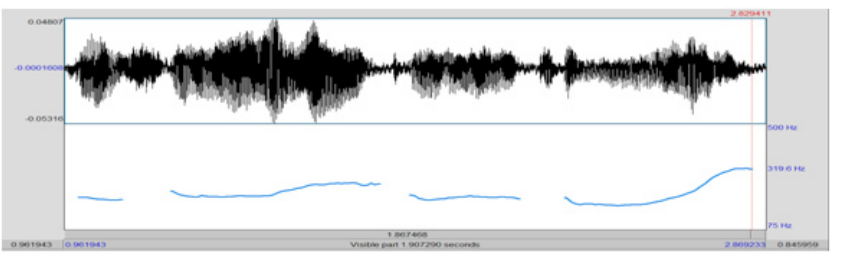


**Figure 3b.** Default YNQs – *Is Maria coming tomorrow?* Uttered by SNS.

found that they present similar patterns. It can be noticed that both patterns in Figure 3a and 3b look very similar, both showing a rising final contour. However, there are also some differences in the rise of the intonation. The ENS presents a steady rise in the intonation, whereas the SNS rise just occurs at the end of the question. This is true in all of the other default YNQs.

The YNQs with focus show similar patterns in terms of the rising final contour. However, as mentioned above, the SNS does not focus the words in bold as the ENS does.

In figure 4a there is a steep rise in at the end of the interrogative sentence preceded by a fall. The SNS's intonation, on the other hand, presents a steady rise without any pronounced fall preceding it.

b) WHQs

Certainly, there are differences in the intonational patterns of English WHQs uttered by the ENS and by the SNS. The ENS utters the question with a falling final contour, while the SNS utters it with a rising final contour. Ex-

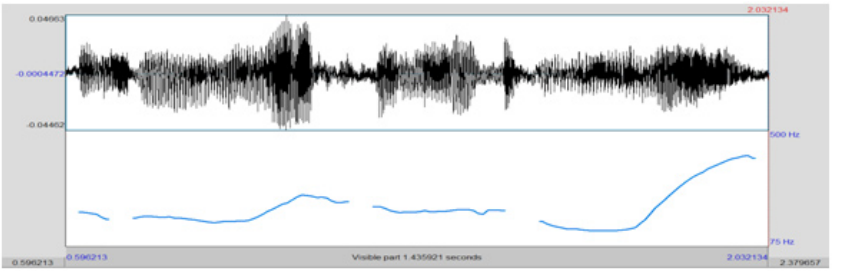


**Figure 4a.** YNQs with focus - *Is Maria coming* ***tomorrow****?* Uttered by ENS.

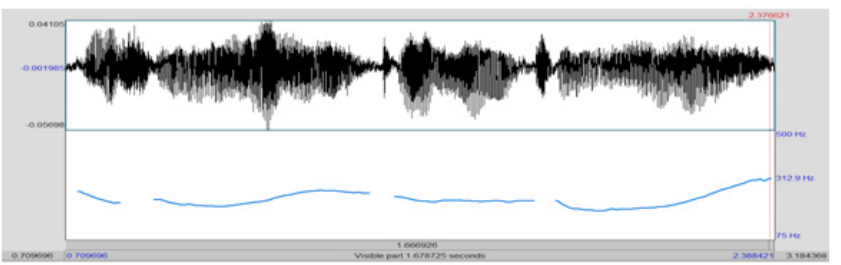


**Figure 4b.** YNQs with focus - *Is Maria coming* ***tomorrow****?* Uttered by SNS.

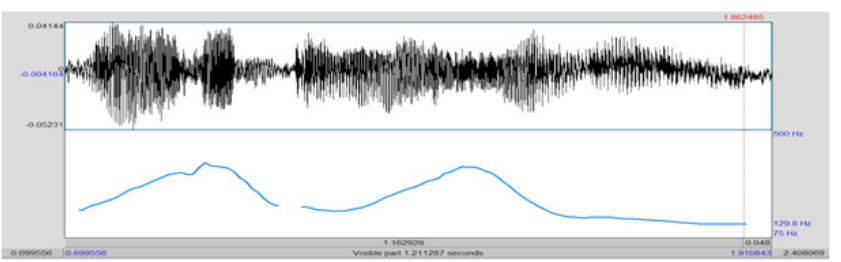


**Figure 5a.** WHQs – *When did Daniel arrive?* Uttered by ENS.

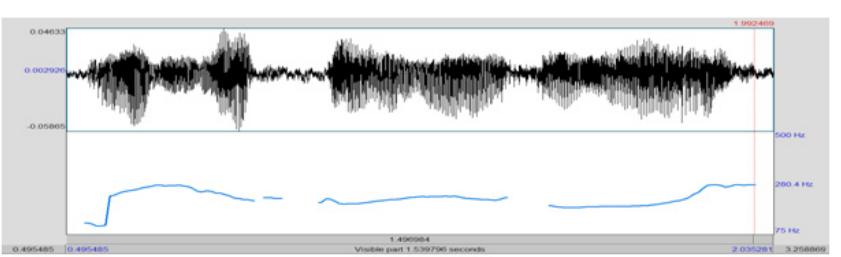


**Figure 5b.** WHQs – *When did Daniel arrive?* Uttered by SNS.

cept for one interrogative which will be dealt in section E, all of the questions by the SNS show a rising contour.

In figure 5a, there is also a rise in the word *Daniel*, which demonstrates that the ENS emphasizes this word. Nevertheless, the SNS does not emphasize this word. It appears that there is a difference on the way some of the emphatic words are intonated by SNS.

*8.3. Comparison of Spanish and English interrogatives uttered by SNS*

a) YNQs

Another important comparison to examine is that of the utterance of the SNS in English and Spanish interrogatives. This could shed light into the possible transfer that the L1 - Spanish on the L2 – English.

As presented in figures 6a and 6b, the pattern of the intonation at the end of the interrogative is almost identical. Since in this case focus is in the last word in English as well as in Spanish, the SNS's intonational pattern pres-

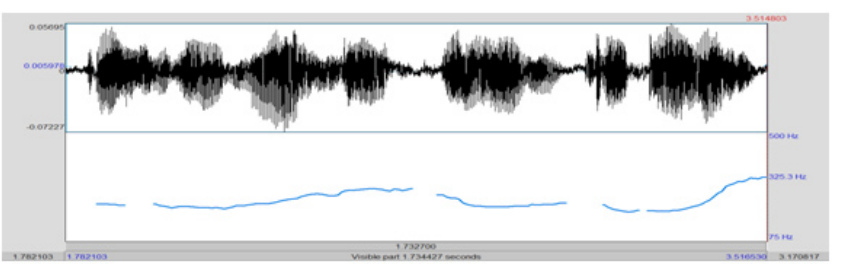


**Figure 6a.** English YNQ - *Is Ronaldo playing* ***today****?* Uttered by the SNS.

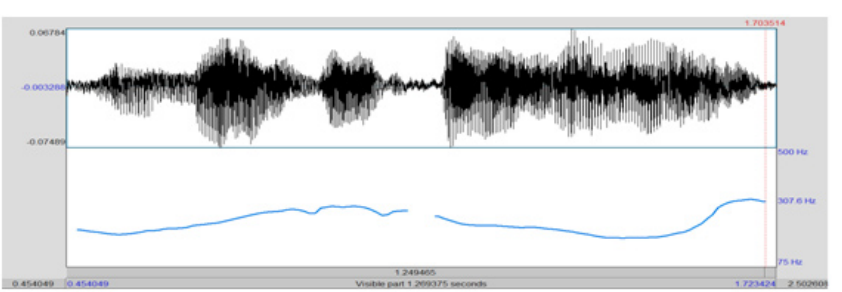


**Figure 6b.** Spanish YNQ - *¿Ronaldo juega* ***hoy****?* Uttered by SNS.

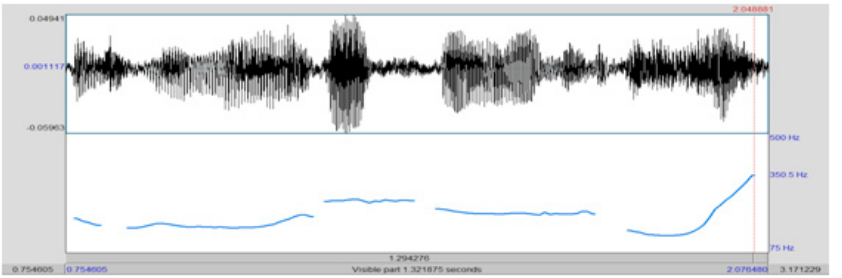


**Figure 6c.** YNQ - *Is Ronaldo playing* ***today****?* Uttered by ENS.

ents a similar low pitch just before the rise. In addition, after the rising pitch, there is a steady line that continues without any big alterations in the pitch. This is different from what can be seen in the ENS's intonational pattern of the same question.

In figure 6c there is only a rising contour without any steady continuance like the one the SNS presented. This pattern repeats itself in many of the in-

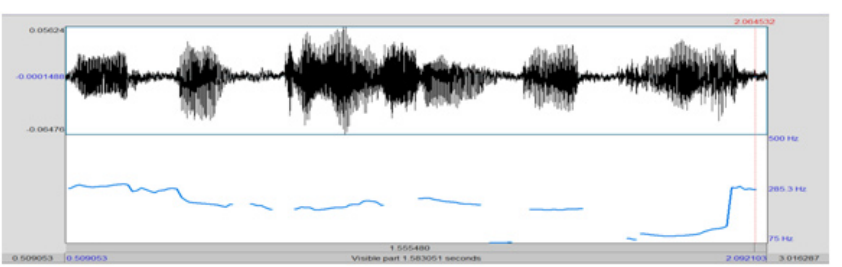


**Figure 7a**. English WHQ - *Who did Jason eat with?* Uttered by SNS.

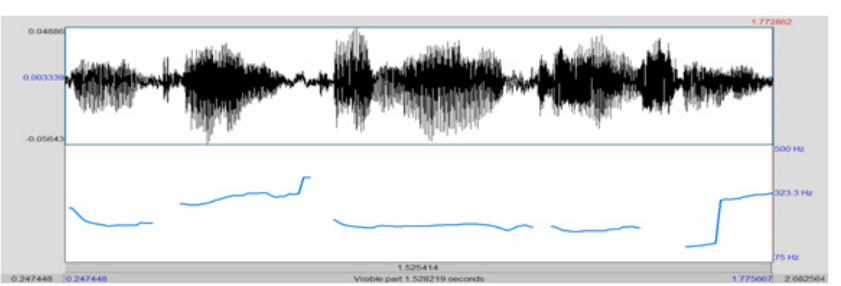


**Figure 7b.** Spanish WHQ - *¿Con quién comió Jason?* Uttered by SNS.

terrogatives uttered by the SNS (see Apendix B).

b) WHQs

Like with YNQs, the SNS reveals similar rising final contours in WHQs.

Figure 7a and 7b reveal noticeable similarities at the final contour of the WH-interrogatives. As with the YNQs, the SNS seems to utter these questions with a rising contour at the end which is followed by a steady non-changing pitch.

*8.4. Summary of the results*

Table 1 summarizes the findings on the intonational differences between English uttered by an ENS and Spanish uttered by a SNS. For Spanish interrogatives both show a rising final contour.

Moreover, Table 2 summarizes the English interrogatives uttered by the ENS and by the SNS. As with her L1, the SNS presents rising patterns for both types of questions.

The following Table 3 summarizes the results found in the differences between the English interrogatives and the Spanish interrogatives uttered by the SNS. Likewise, the patterns are both rising final contours for both types

**Table 1.** Differences in the patterns between English and Spanish interrogatives

| | YNQs | WHQs |
|---|---|---|
| English ENS | Rising | Falling |
| Spanish SNS | Rising | Rising |

**Table 2.** Differences in the pattern of English uttered by ENS and by SNS

| | YNQs | WHQs |
|---|---|---|
| English ENS | Rising | Falling |
| English SNS | Rising | Rising |

**Table 3.** Differences between English and Spanish Interrogatives uttered by SNS

| | YNQs | WHQs |
|---|---|---|
| English SNS | Rising | Rising |
| Spanish SNS | Rising | Rising |

of questions.

*8.5. Some mismatches*

When examining all of the intonational patterns by the SNS some discrepancies were found. For instance, one of the YNQs shows a different pattern. All of the interrogatives have a pronounced rise in pitch at the phrase boundary. Yet this question has a low pitch. Even though it still shows a slight rise in the final contour, the pitch is low.

Likewise, one of the WHQs also presented a distinctive intonational pattern. All of the interrogatives uttered by the SNS have a rising itnonation at the end of the sentence, except for this sentence (see figure 8b). Although, it does exhibit a slight rising intonation at the final contour, it still has a very low pitch at the end. This question ends with a preposition, but this does not apear to be the factor that influences this pattern, since another question that ends with the same preposition, shows a completely different pattern (see figuare 8c).

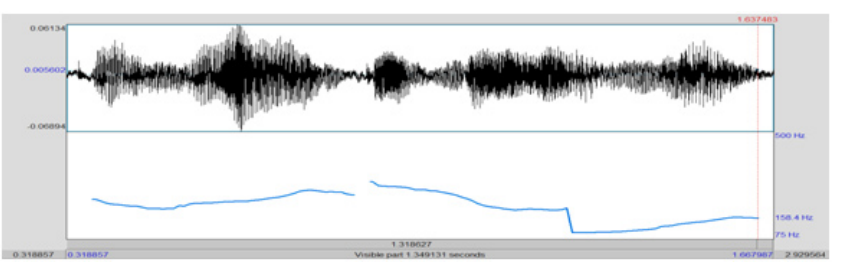


**Figure 8a.** English YNQ - *Did you open the* ***window****?* Uttered by SNS.

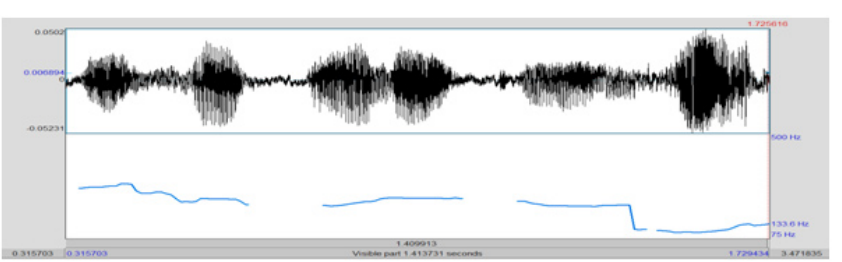


**Figure 8b.** WHQ - *Who did Ana come with?* Uttered by SNS.

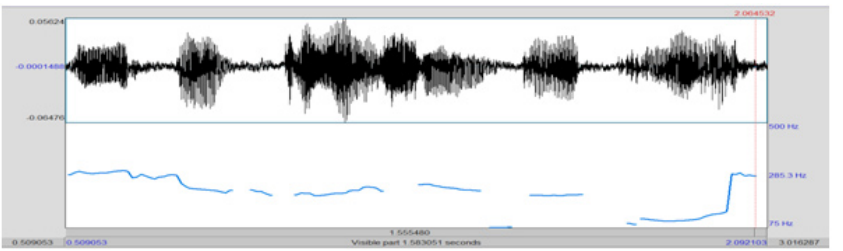


**Figure 8c.** WHQ - *Who did Jason eat with?* Uttered by SNS.

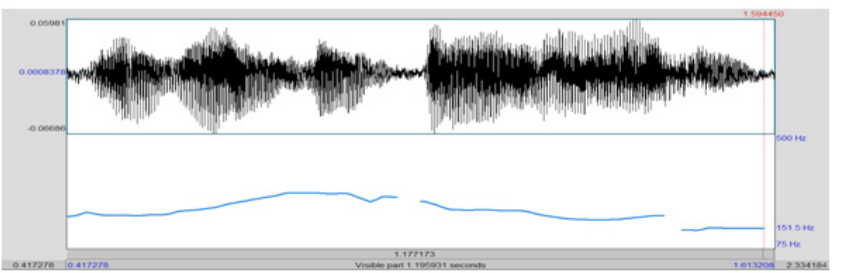


**Figure 8d.** Spanish YNQ - *¿**Ronaldo** juega hoy?* Uttered by SNS.

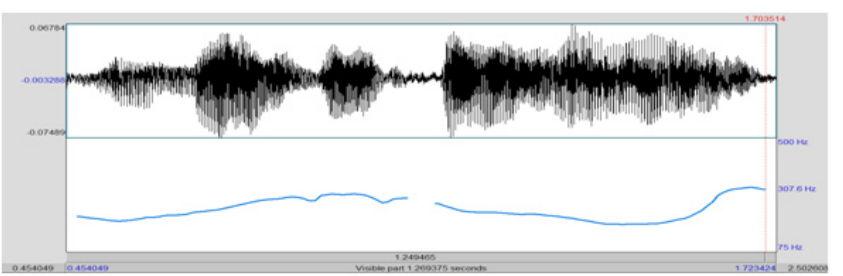


**Figure 8e.** Spanish YNQ - *¿Ronaldo juega **hoy**?* Uttered by SNS.

Furthermore, another sentence worth examining for its characteristic pattern is a Spanish YNQ. All of the other YNQs in Spanish present a rising final contour except for this sentence (see figure 8d).

As figure 8d reveals, unlike other YNQs in Spanish, this one has a low pitch at the end of the interrogative. It might be due to the instruction given to the SNS to consider the bold letters as emphatic. When examining the same interrogative sentence with a different focus, the pattern of the intonation changes

(see figure 8e). While in 8d the focus is given in the first word, Ronaldo, in 8e the emphasis is given to hoy (i.e.,today). This suggests that since the word hoy appears at the end of the interrogative, there is a rise in the intonation at the end of the interrogative.

## 9. Evaluation and Further Studies

The results in the analysis of the presented data are tantamount to that of the results in previous studies. It was demonstrated that there is indeed transfer from L1–Spanish to L2–English. The patterns in the intonation of the SNS of English interrogatives reveal remarkable similarities. As with the Spanish interrogatives, the SNS exhibits a rising contour at the end of both types of English interrogatives. However, it might be suggested that this might be influenced by the unmarkedness of this pattern in interrogatives. In other words, the most unmarked pattern of interrogatives is a rising intonation in the final contour. This seems to disprove the evidence that points to an L1 transfer.

Nevertheless, a closer look at the SNS's intonation reveals that there is a distinctive pattern in the way the SNS intonates interrogatives according to where the focus or the emphatic word is located in the sentence. This seems more obvious when the focus is at the end of the interrogative as shown in figures 6a and 6b. The steady continuance with no change in pitch also appears in other questions such as in figure 7a and 7b. This pattern seems characteristic in both types of interrogatives uttered by the SNS and there appears to be a transfer of this form of intonation in the English interrogatives. Further research could be done in this matter to account for the similarities in this type of pattern for SNS. Focus and emphasis on words seems to be a key to this unique form of intonation at the final contour.

In terms of the discrepancies found in some of the questions presented in figures 8a, 8b and 8d, more research should be done on this particular phenomena. As stated above, this might be due to the different words that had been emphasized in each sentence. Perhaps this preliminary study could serve as a base for further studies in the intonation of interrogatives influenced by

the focus or by emphatic words.

Moreover, improvements in the design of this study might shed light into more meaningful results in possible future studies. In the first place, the stimuli could be more detailed in terms of the context in which the questions are uttered. In this way, the speaker would know exactly how to emphasize particular words and where the focus should be in the sentence. In addition, a better environment to do the recordings would help the outcome of the results as noise was one of the factors that might have affected the results. Furthermore, a further study could be done with subjects from Venezuelan or from Buenos Aires, who according to previous studies exhibit falling final contours in YNQs. This could better demonstrate L1 transfer in the intonation of English interrogatives.

## Reference

Bartels, C. 1999. *The intonation of English statements and questions: A compositional interpretation*. Routledge.

Beckman M.E., Díaz-Campos, M., Tevis, J., Morgan, T. A. 2002. Intonation across Spanish, in tones and break indices framework. *Probus* 14, 9-36.

Carter, P. M. 2004. Quantifying rhythmic differences between Spanish, English, and Hispanic English. In R. S., Gess, and E. J. Rubin (Eds.), *Theoretical and Experimental Approaches to Romance Linguistics*. 63-75.

Ladd, D. Robert. 2008. *Intonational phonology*. Cambridge: CambridgeUniversitypress.

Lee, S. 2010. *Absolute Interrogative Intonation Patterns in Buenos Aires Spanish* (Doctoral dissertation. The Ohio State University).

Liberman M. and Pierrehumbert, J. 1984. Intonational invariance under changes in pitch range and length. In M. Aronoff, R. T. Oehrle (Eds), *Language sound structure: studies in phonology*. Cambridge Mass: MIT Press. 157-253.

Roca, I. and Johnson W. 2009. *A Course in Phonology*. Blackwell.

Schubiger, Maria. 1958. *English Intonation: its form and function*. Tubingen: Niemeyer.

Thomas, E. and Ericson, H. A. 2007. Intonational distinctiveness of Mexican American English. *U. Penn Working Papers in Linguistics* Vol. 13 No. 2, 193-205.

**ABSTRACT**

# A Cross-linguistic Comparison between Spanish and English Intonation of Interrogatives

Young A Son

The following research paper is a preliminary study of the different intonational patterns of English and Spanish Yes or No Questions and WH-Questions. It examines the various elements that might influence the English intonation of interrogative sentences by Spanish native speakers (SNS). It intends to answer: what are differences in the patterns of English and Spanish Questions? Does the L1 (Spanish) influence the intonation of English YNQs? Does the L1 influence the intonation of English WHQs? The results of the analysis of the data are tantamount to that of the results in previous studies. It was demonstrated that there is indeed transfer from L1 – Spanish to L2 – English. To counter-argue the possibility of the results being just a representation of the unmarkedness of the rising pattern in interrogatives, the SNS's intonation was examined more closely. It was found that there is a distinctive pattern in the way the SNS intonates interrogatives according to where the focus or the emphatic word is located in the sentence. When the focus is at the end of the interrogative, there is a steady continuance with no change in pitch in the phrase boundary. This pattern seems characteristic in both types of interrogatives uttered by the SNS and there appears to be a transfer of this form of intonation in the English interrogatives.

*Key Words* intonational pattern, interrogatives, phrase boundaries, L1 transfer