Pitch Accent in Galician Spanish1

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Pitch Accent in Galician Spanish[1]

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This paper shares preliminary results, which tend to indicate the presence of a special utterance final pitch accent in Galician Spanish. This variety has specific characteristics that make it stand out in any Spanish speaking area outside Galicia. Differences in lexical choices, pronunciation of certain specific sounds, syntactic variation, etc. help identify Spanish speakers from this region, but nothing is more noticeable than the special intonation these speakers have, particularly the perceived higher intensity of stressed syllables when compared to standard Spanish. In this paper I will look at intonation in the Spanish in contact with Galician as an example of the existence of a special pitch accent in Galician that permeates spoken Spanish. [2]

The first part of this paper will review some of the most important concepts related to this topic. After discussing some approaches by Spanish and Galician scholars, specific examples from Galician and Galician Spanish will be analyzed and compared to examples of standard Castilian Spanish.

The data used for this study comes from tape recordings of Galician speakers made by the researchers of the *Instituto da Lingua Galega* as part of the data gathering process to prepare the AGAL (*ATLAS Lingüístico Galego*)[3] and from tape recordings of bilingual Spanish and Galician speakers, monolingual speakers of Spanish from Galicia, and monolingual speakers of Spanish from other areas of the Spanish speaking world made by the author in Galicia and the United States. The data from the *Instituto* is all in Galician with a majority of monolingual speakers in that language and have the form of narratives told by individual informants. The *Instituto* compiled recordings from all the major areas where the language is spoken. For this study the tapes found to be more representative of the different areas were selected. Most of the data selected comes from South Western Galician, specifically the Pontevedra area, coastal zones. The data recorded by the author is in the shape of unrehearsed conversations among the informants.

Out of these tapes, electronic sound files were created and ran through a speech analysis tool to obtain spectrograms and diagrams for pitch, intensity, and frequency.[4] Since the data examined was not produced in a laboratory setting, but in actual conversations between native speakers, this study will contribute to the analysis of uninterrupted speech flow providing information about realistic rising and falling contours in actual samples of natural discourse.

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[1] The term Galician Spanish is used in this paper to refer to the variety of Castilian Spanish spoken by bilingual speakers of Galician and Castilian Spanish, and by monolingual speakers of Castilian Spanish who have been in contact with Galician all of their lives.

[2] This study only looks at one side of intonation in these languages in contact. It will be left for another study a look at the Castilian intonation present in some speakers of Galician. This particular intonation can be explained by making reference to a stage in the learning process: language learners who do not have complete control of the language yet, or by native speaker's perception (by choice or by imposition of the local and national cultural elite) of what is considered to be the prestigious variety. For some speakers of Galician (native and learners alike) it is now fashionable and politically correct to speak Galician, but it sounds more educated when all characteristics internal to Galician are eliminated, and the accent approximates Castilian as much as possible. It is interesting to see that in the regional media, newscasters speak Galician with a Castilian accent, but in imported programs from England when needing to dub the voices of Cockney speakers, an attempt is made to represent it with characteristics of Galician associated with low registers of prestige. As I said before, this will be the subject of another study.

[3] I extend my sincere gratitude to the *Instituto* for allowing me to copy a good number of their materials.

[4] PRAAT, a speech analysis tool to do phonetics on the computer was used. This shareware program was developed by Paul Boersma of the University of Amsterdam and can be downloaded at www.praat.org.

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1. Background Information

In the general literature the term pitch accent has been used in different ways. Pierrehumbert (1980) defined it a special lexical contrast in intonational tonal contours related to stress. Establishing the difference between stress, tone and accent is not an easy task. Pitch has been identified as being the primary acoustic equivalent of tone, and the perceptual signal of stress (Hyman 1978). Nevertheless, the term pitch accent has been used to identify a third group of languages different from tone languages and stress-accent languages. In tone languages pitch distinguishes items lexically, whereas in stress-accent languages, pitch is non distinctive. In tone languages the pitch of each syllable is unpredictable and syllables, having not identifiable prominence, must be marked in the lexicon for tone. In stress-accent languages such as English, the accented syllable is more prominent, and therefore the melody of the word can be predicted based on that prominence. Chinese and Thai are typical examples of tonal languages. In the so-called pitch-accent languages, placement of accent determines what syllable is going to have more prominence. Japanese has been mentioned as a proto-typical pitch-accent language based on the fact that we find a three-way distinction between High Low, Low High, and unaccented words.

Hasegawa (forthcoming) studies the Japanese Tokyo dialect where vowels devoice, according to this author, regardless of their accented status. Hasegawa considers that prominence does not guarantee permanence of the vowel in Japanese, and therefore there is no connection between prominence and accented status in Japanese, which in her opinion should be treated as a tone language and not as a stress-accent language in spite of the fact that tones do not necessarily follow the expected pattern in Japanese and do not have, and least in the Tokyo dialect, the same prevalence in the surface structure. She uses this finding to prove that Japanese should be studied as tone language and not as stress-accent language. Therefore giving basis for a three-way distinction in Japanese.

In English a prominent syllable is usually maintained, that is, it is not reduced. Galician and Spanish tend to group themselves with English in this aspect: no reduction of prominent or accented vowels. We find a distinction between Galician and English on one side, and Spanish on the other, in the treatment of accented vowels versus non-accented ones. In Galician in particular we find examples of reduction, and sometimes even deletion of unaccented vowels, i.e. *A Coruña →A Curuña → A Cruña*. In Spanish, we find a slight reduction of unstressed vowels, but this reduction is not significant, and it does not alter the quality of the original vowel.[5] We can hypothesize than in Galician prominence and accent do go hand in hand. So we would expect to find reductions in unstressed position, but not in stressed position. This is confirmed in Galician by the existence of phonemically contrastive open and closed mid vowels only in stress-related positions. It has been demonstrated that this situation transfers to Galician Spanish, although more contrastive studies need to be done. Castro (89 and 98) confirmed Carballo Calero's insight that Galician only has contrastive open and closed middle vowels in stressed related positions. That is, we find lexical distinctions between open and closed mid vowels in tonic and pre-tonic syllables related to stress. We do not find a contrast between these vowels in the pre-tonic syllable immediately preceding the tonic unless that syllable is the first syllable of the word. In order to explain this contrast Castro associated a secondary stress with word initial position in Galician.

Carballo Calero (79) says

> "El campo de entonación es más extenso en gallego que en castellano. Si en este idioma suele rebasar un poco una octava, en el nuestro alcanza más de dos. El tono medio es también más alto en gallego que en castellano. La riqueza melódica del gallego da al hablante castellano la sensación de que el hablante gallego canta. Esta sensación es particularmente intensa ante el dialecto suroccidental, en el que la curva melódica es más pronunciada que en el gallego del resto de Galicia.". (p. 147).

[5] It is interesting to note that major changes in vowel quality in Spanish stressed or unstressed vowels are only found in situations where Spanish is in contact with other languages.

Hirst and Di Cristo (98) state, “In a stress language the actual pitch accent associated with accented syllables may vary according to the intonation”. (p. 10) This is confirmed for Spanish as we can see in figure 3 below where the word *hablar* (to speak) with stress on the final syllable, does not have a special pitch associated with it in the intonational contour, but the word *conmigo* (with me) with stress on the penultimate syllable, carries a high pitch on the first syllable *con*. The stressed syllable *mi* does not receive the highest pitch because it is at the end of the utterance, and follows the expected falling contour identified for this position in Spanish.

At the word level every word pronounced in isolation in Galician and Spanish has a specific word accent, even though some of these words never appear accented at the phrase level, i.e.: *cómo (how), como (I eat), como (as, like)*. The interrogative form *cómo* has a pitch accent to signal a question, the verb form *como* is stressed on the penultimate syllable, and the preposition does not show up stressed in the discourse (it does have stress when pronounced in isolation, and can receive phrasal stress if given emphasis). Only lexical words carry stress in both languages, the so-called grammatical words (prepositions, articles, etc) do not carry stress.

Crystal (69) defined pitch onset as a rising pitch in the first stressed syllable of the unit. The combination of rising onset and falling nucleus is a common feature of languages. It is also common to find a rising pitch on each stressed syllable, except the last. In Spanish and American English a falling rather than a rising pattern is common in stressed syllables.

Antonio Quilis (88) in his study of Spanish intonation identifies 3 tonal levels for Spanish: 1 (low), 2 (medium), and 3 (high), but in his analysis of the data, he only identifies 1, and 2 in most Spanish phrases. Tonal level 3 appears according to Quilis only when indicating emphasis, and in echo, relative, an imperative questions, as well as the beginning of exclamations. Matluck (65) establishes the following structure for simple declarative sentences in Spanish /1211/. Galician seems to start higher, go up to level 3 or even 4 on stressed vowels, and never come down to a level lower than 2.

Another typological distinction relevant for our purposes is that of stress-timed vs. syllable-timed languages. Navarro Tomás (39) views Spanish as a syllable-timed language. Fant (84) on the other hand, considers Spanish as a stress-timed language similar to English, and not as a syllable-timed language like Italian. We also need to consider the difference between trailer-timed languages and leader-timed languages as presented by Wenk and Wioland (82). Trailer-timed languages create left-headed stress groups where the tonic syllable joins together with the following unstressed syllables to form the stress group. Leader-timed languages create right-headed stress groups where the tonic syllable joins with the preceding unstressed syllables to form the stress group. Standard Spanish appears to behave as a leader-timed language.[6] The difference between leader-timed (right-headed) and trailer-timed languages (left-headed) becomes relevant when we look at the differences between Brazilian Portuguese and European Portuguese. One of the differences between these two varieties is the fact that vowels in unstressed position tend to reduce more in European Portuguese than in Brazilian Portuguese. It is said also that Galician shares this particular characteristic with its neighbor to the South, and this is one of the differences between Spanish and Galician as well. If this is true, there is a correlation between a language having left-headed stress groups and reduction of vowels in unstressed position. We need to add that Galician does not go as far as European Portuguese in this respect.

2. Analysis

Porto Dapena (1977) reports on the observations made by Dámaso Alonso y García Yebra about a special word stress in Ancares Galician. According to these two scholars, besides the stress of intensity in Ancares Galician we have a tonal stress in the pre tonic syllable, situation they compare

[6] Alcoba and Murillo (98) consider Spanish “to behave like a trailer-timed language. The tonic syllables group together with the preceding unstressed syllables to constitute a unit which behaves differently from the syllable or the foot.” (p. 166). They probably mean to say that Spanish is a leader-timed language according to their definition.

with French, and Cuban Spanish. Porto Dapena did not find this in Ferrol Galician where he says that both these stresses fall on the tonic syllable when the word is pronounced in isolation. He adds, though, that the melodic curve varies according to the location of the stressed syllable within the word. What Porto Dapena calls tonal stress, we call pitch accent, and our hypothesis will be that it may be present or not at the word level, where it can coincide with the stressed syllable, but it will be present at the phrasal level. The high pitch associated with this position in Galician reappears in Galician Spanish through instances of open and closed mid vowels in those positions. This intensity or prominence is frequently correlated with duration. Prominent vowels sound as longer and more intense. In our data, a bilingual speaker when mimicking another speaker's utterances clearly elongates the vowels. The original utterance was "*yo sé de una casa que tiene habitaciones*" (I know of a house that has rooms) with stress in the capitalized vowels of "*yO*", "*sE*", "*cAsa*", "*tiEne*" and "*habitaciOnes*", and a special pitch on the stressed vowels of *cAsa* and *habitaciOnes*. The second speaker when imitating the intonation of the first, clearly elongates these vowels actually saying "YO sE de una cĀsa que tiEne habitaciŌnes, but the raising pitch contour is very noticeable as well. Nevertheless as it can be seen in Figures 1 and 2 the difference in duration is not significant, and does not seem to be a factor.

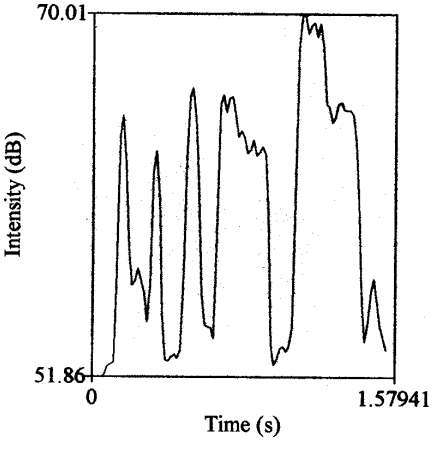

Figure 1. Intensity chart for *Se puso a hablar conmigo* uttered by a non Galician Spanish speaker

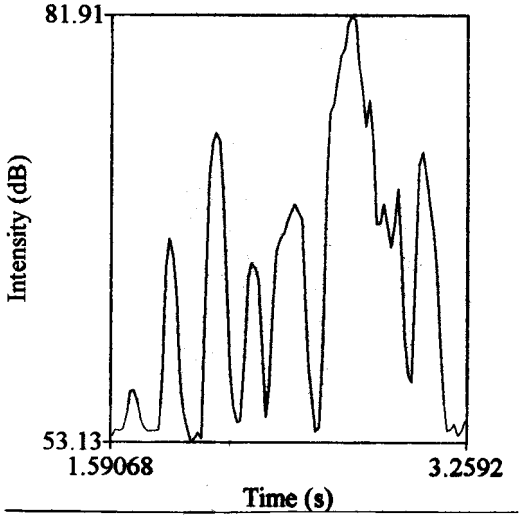

Figure 2. Intensity Chart for *Se puso a hablar conmigo* uttered by a Galician Spanish speaker

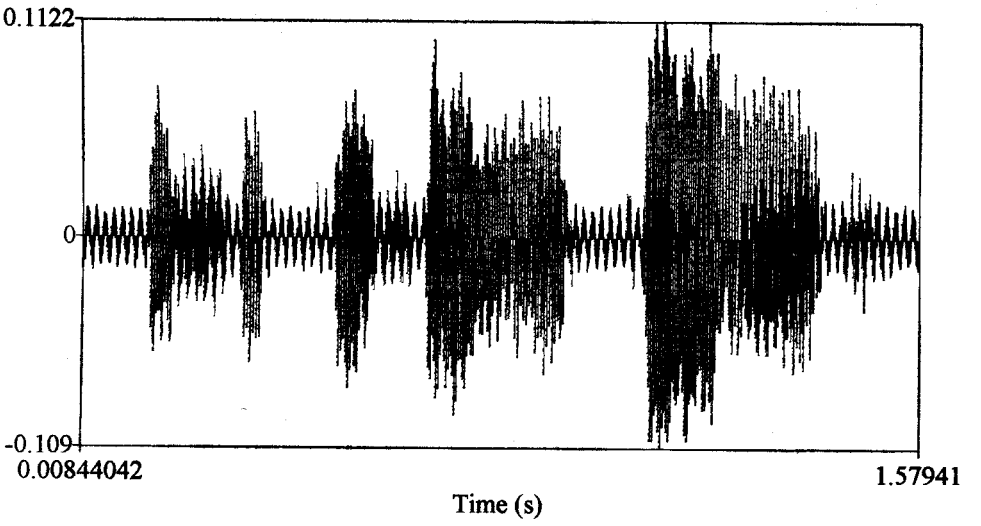

Figure 3. Spectrogram for *Se puso a hablar conmigo* uttered by a Spanish speaker.

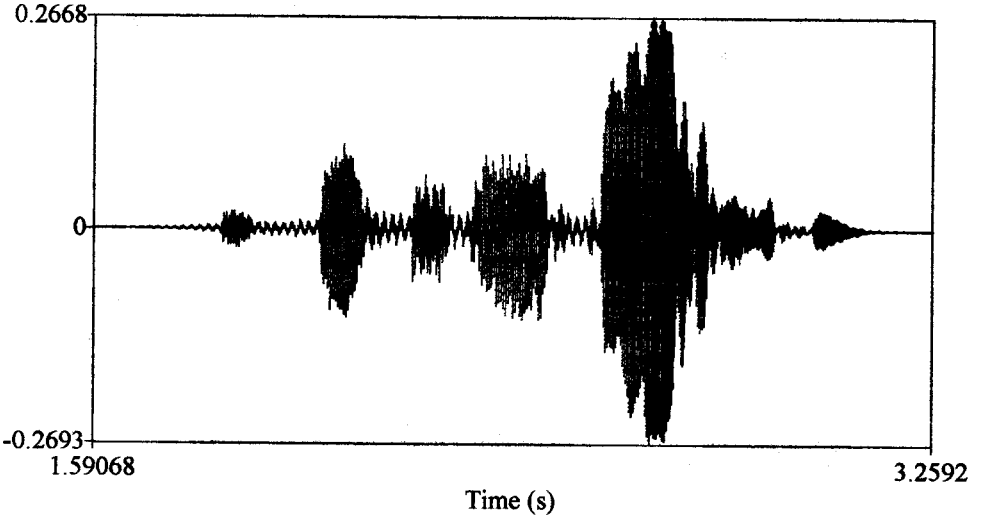

Figure 4. Spectrogram for *Se puso a hablar conmigo* uttered by a Galician speaker

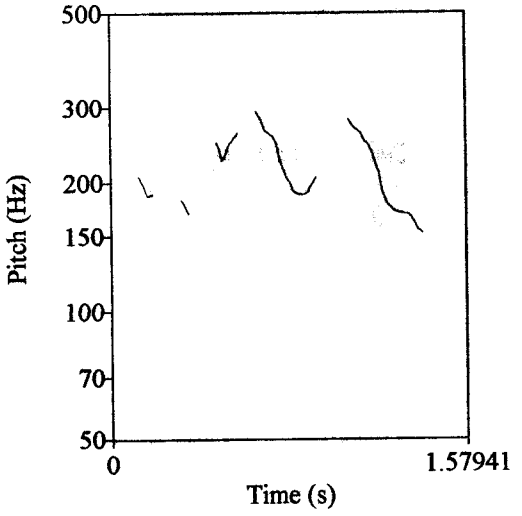

Figure 5. Pitch chart for *Se puso a hablar conmigo* uttered by a Spanish speaker.

In figure 5 the intonation contour goes up to about 268 Hz in the first syllable *con* of *conmigo* (with me) and then drops to about 163 in the syllable *mi*. In figure 6, the pitch contour goes up to about 288 Hz for *con*, and continues to rise up to about 380 Hz in *mi*, and then drops slightly to about 342 in the last syllable *go*. We can see that even though there is a small fall at the end of the utterance in Galician Spanish, this falling movement stops rather quickly, and it does not go nearly as far down as it does in the Spanish example.

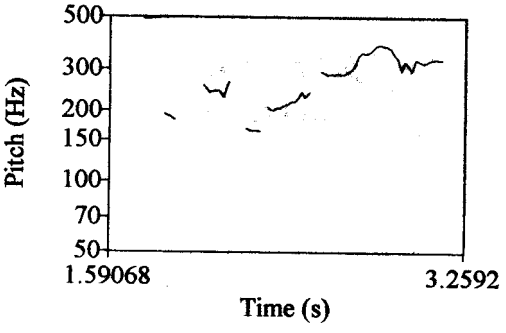

Figure 6. Pitch chart for *Se puso a hablar conmigo* uttered by a Galician Spanish speaker

It has been generally agreed that a rising tone takes longer to produce than a falling tone. This could explain why the vowels are perceived as longer in Galician compared to standard Spanish where accented vowels do not rise as much as in Galician, but a have a more pronounced drop. According to Hasegawa (forthcoming) a falling tone needs to drop quite a bit in order to be identified as making a difference in the pitch contour. Since Galician does not seem to have a pronounced falling tone at the end of utterances, its final drop does not register for monolingual Spanish speakers.

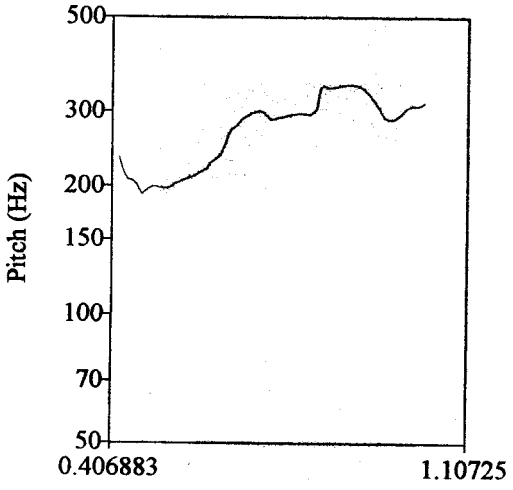

Figura 7. Pitch Chart of *como non ves…*(Since you are not coming…) uttered by a Galician speaker. The complete sentence pronounced was *Como non ves, imos sin ti* (Since you are not coming, we will go without you). Here only the pitch contour for the first part is represented.

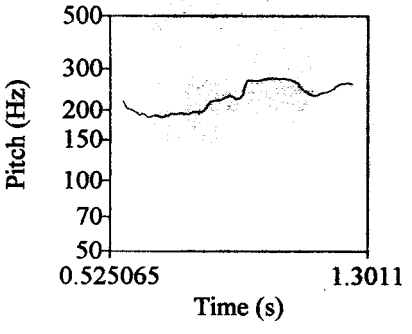

Figura 8. Pitch chart of *como no vienes…*(Since you are not coming…) uttered by a non Galician Spanish speaker. The complete sentence pronounced was *Como no vienes, iremos sin ti* (Since you are not coming, we will go without you). Here only the pitch contour for the first part is represented.

Although Figures 7 and 8 look very similar, there are some noticeable differences. The pitch rises to 400 Hz in the Galician speaker and it does not reach 300 Hz in the Spanish speaker. Since these examples are part of a longer phrase the pitch remains higher in both speakers. This is what we would expect in an incomplete phrase as part of universal intonation typology. Notice that the Galician example surpasses 300 Hz while the Spanish does not reach that level. It is interesting to note that impressionistic comments say that Spanish speakers sing when uttering unfinished phrases. The same comments are made about Galician in general, not only about unfinished phrases.

Questions formed with an interrogative word have been used as examples of a falling pitch in sentence final position in Spanish. We have a minimal pair in Galician, and an almost minimal pair in Spanish with the form represented in figures 7 and 8. In figures 9 and 10 we can see the pitch contours for *¿Cómo non ves?* in Galician, and *¿Cómo que no vienes?* in Spanish (How come you are not coming?). Although these two languages have a great deal in common, we were not able to find a perfect minimal pair for the Spanish version. Monolingual Castilian speakers reported they could not use *¿Cómo?* (How?) with the meaning *¿Por qué?* (Why?), which would be the way to say this phrase

in Spanish: *¿Por qué no vienes?* (Why are you not coming? or Why don't you come? In Spanish, speakers reported that this phrase would be either stated using *Por qué* (Why) or it would have to be paraphrased as *¿Y eso que no vienes?* which is the closest semantic representation for the original Galician form. It is worth noticing that monolingual Castilian speakers were not able to say *¿Cómo no vienes?*, but Galician Spanish speakers had no problem with this form, and were able to say it with the same meaning.

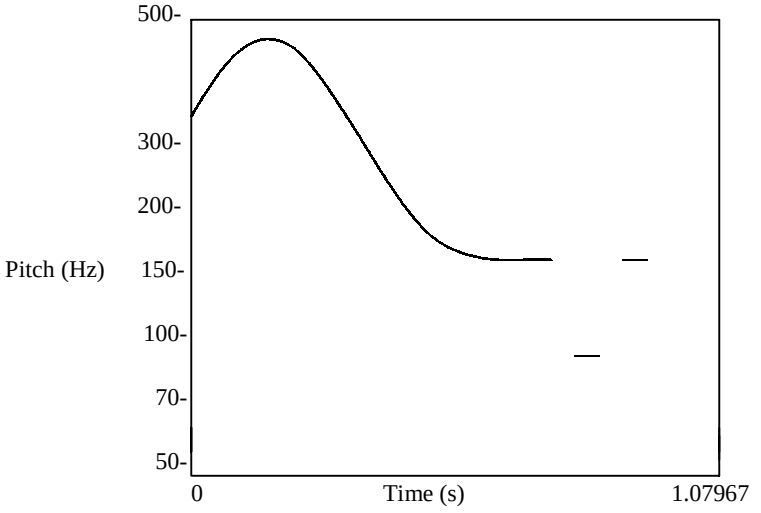

Figure 9. Pitch contour for *¿Cómo non ves? (How come you are non coming) u*ttered by a Galician speaker.

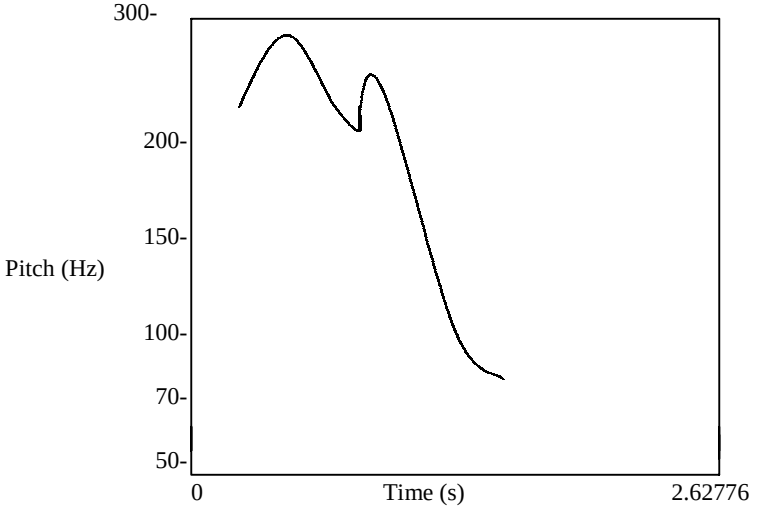

Figure 10. Pitch contour for *¿Cómo que no vienes?* (How come you are not coming?) uttered by a Spanish monolingual speaker.

Observe the continuous and rapid fall for this question in Spanish. It reaches its highest peak at about 300 Hz and falls to about 80 Hz. Compare this figure with figure 11 where the highest peak appears at more than 400 Hz and gradually drops to about 175 Hz in the stressed vowel "*e*" and remains at that level until the end of the utterance with no falling curve.

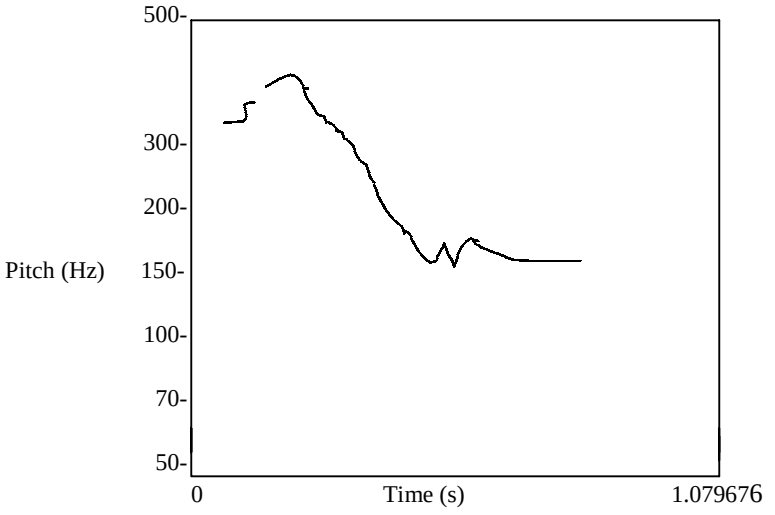

Figure 11. Pitch contour of *¿Cómo que no vienes?* (How come you are not coming?) uttered by a bilingual Galician Spanish speaker.

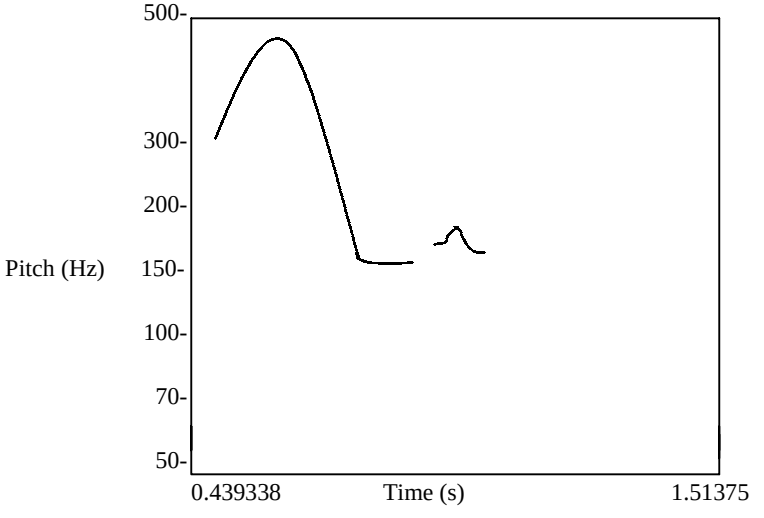

Figure 12. Pitch contour of *¿Cómo no vienes?* (How come you are not coming?) uttered in Spanish by a bilingual Galician Spanish speaker.

Notice that the contour on figure 12 resembles the one in figure 9. Even though the speaker is using a different language (Galician in 9, Spanish in 12), the intonation contour remains the same. If we compare this two figures with figure 10, we can see that this question has a fall in all varieties considered, but the fall is continuous and steep in Spanish, while it is not so pronounced in Galician and Galician Spanish where if it goes down in one part of the utterance, it comes back up on the last stressed vowel.

Summing up, we can say that in questions both Galician and Galician Spanish start higher than Spanish, and although there is a fall in questions, this fall is not as pronounced as in Spanish.

Other areas of the Spanish-speaking world have been associated with a rising pitch at the end of utterances among then we can mention the Argentinean varieties of Tucumán and Córdoba (Alcoba and Murillo 98). Tucumán speech has been identified as having only two terminal contours: rising and level. It has been said that Buenos Aires speakers perceive Tucumán's statements as questions because of that very high pitch encompassing even unstressed syllables. Within Spain itself the area of Extremadura has been described with a high pitch at the end (Alcoba and Murillo 98).[7]

3. Conclusions and further research

In Galician, regardless of syntactic, semantic or affective meaning, stress and pitch work together to give especial prominence to the last accented syllable in the phrase, while in Spanish pitch is mostly used to mark syntactic, semantic or affective meaning. Also, although there is a rise-fall pitch contour in all accented vowels in Galician, the pitch contour signaling the end of an utterance in Galician is clearly marked by a High on the accented vowel, and a very short lived fall on the following syllable (if there is one). The rising tone in Galician is higher than in Spanish, and the falling tone does not go as far down down. It levels off midway, therefore giving the impression to speakers of other languages that the speaker has not finished his/her turn. The boundary is signaled in Galician by a final sentence pitch accent. The findings of this study corroborate impressionistic comments made by both Spanish and English speakers, all students in a Dialectology class at a major U.S. university while listening to a tape of a monolingual Galician speaker, they all agreed with the perception that this particular speaker did not want to be interrupted. She wanted to keep the floor for herself, as her utterances did not have a falling tone at the end.

In this paper we have reported on preliminary data that points to an especial pitch accent in utterance final position in Galician Spanish. More research needs to be done to confirm these findings. These studies will shed some light on the directionality of stress groups in Galician and Galician Spanish, and will help us determine if Galician Spanish aligns itself with European Portuguese or Spanish.

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[7] It would be interesting to study if there is any relationship between low prestige varieties and final raising pitch. So far, all the varieties mentioned here seem to have low prestige in their own linguistic communities.

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