THE INTONATIONAL PATTERNS USED IN HUNGARIAN STUDENTS' SPANISH YES-NO QUESTIONS

Kata Baditzné Pálvölgyi
University of Eötvös Loránd, Budapest

Abstract

In the following study we present the intonational characteristics of yes-no interrogatives produced by Hungarian learners of Spanish. First, we characterize the melodic patterns of Hungarian and Spanish yes-no interrogatives, and second, we check to what extent the intonation of Spanish questions realized by Hungarian learners is influenced by their mother tongue. The presentation of intonational patterns occurring in Hungarian and Spanish yes-no questions is based on the corpora included in my doctoral dissertation and also already existing intonational descriptions, such as Varga (2002a) and Cantero & Font-Rotchés (2007). The representation of the patterns follows the protocol elaborated by Cantero & Font-Rotchés (2009). The fact that in Hungarian there is only one intonational pattern to be used in yes-no questions, the rise-fall, where the fall must occur on the penultimate syllable, and in Spanish, there are four intonational patterns, causes that Hungarian learners of Spanish produce Spanish yes-no questions rather with their native Hungarian intonation. And this hinders comprehension.

KEY WORDS: yes-no questions, interrogative patterns, rise-fall, Spanish

Resumen

En este artículo, presentamos las características entonativas de las interrogativas absolutas que producen los estudiantes húngaros cuando hablan castellano. En primer lugar, caracterizamos los patrones melódicos de las interrogativas absolutas del húngaro y del castellano, y en segundo lugar, comprobamos hasta qué punto la entonación de las preguntas castellanas producidas por estudiantes húngaros es influida por su lengua materna. La presentación de los patrones entonativos de las interrogativas absolutas del húngaro y del castellano se basa en el corpus de mi tesis doctoral y en otras descripciones anteriores, como la de Varga (2002a) i la de Cantero & Font-Rotchés (2007), mientras que la representación de los patrones se basa en la propuesta de protocolo de Cantero & Font-Rotchés (2009). El hecho de que el húngaro solo tenga un patrón para las interrogativas absolutas, el ascendente-descendente, en el que el descenso tiene lugar en la penúltima sílaba, y que el castellano tenga cuatro provoca que los estudiantes húngaros produzcan las interrogativas absolutas del castellano con una entonación más propia del húngaro, lo cual dificulta la comprensión.

PALABRAS CLAVE: preguntas sí/no, patrones interrogativos, ascendente-descendente, español

Resum

En aquest treball, presentem les característiques entonatives de les interrogatives absolutes que produeixen els estudiants hongaresos quan parlen castellà. En primer lloc, caracteritzem els patrons melòdics de les interrogatives absolutes de l'hongarès i del castellà, en segon, comprovem fins a quin punt l'entonació de les preguntes en castellà produïdes pels estudiants hongaresos és influïda per la seva llengua materna. La presentació dels patrons entonatius de les interrogatives absolutes de l'hongarès i del castellà es basa en el corpus de la meva tesi doctoral

i en d'altres descripcions precedents, com la de Varga (2002a) i la de Cantero & Font-Rotchés (2007), mentre que la resentació dels patrons es basa en la proposta de protocol de Cantero & Font-Rotchés (2009). El fet que l'hongarès només tingui un patró per a les interrogatives absolutes, l'ascendent-descendent, en què el descens té lloc en la penúltima síl·laba, i que el castellà en tingui quatre provoca que els estudiants hongaresos produeixin les preguntes absolutes del castellà amb una entonació més pròpia de l'hongarès, la qual cosa en dificulta la comprensió.

PARAULES CLAU: preguntes sí/no, patrons interrogatius, ascendent-descendent, espanyol

1. Introduction

The present paper examines whether Hungarian students of Spanish realize their Spanish yes-no questions with any of the possible Spanish interrogative intonational patterns.

An empirical and experimental-based methodology has been used, focusing on the assumptions of the *Melodic Analysis of Speech* (MAS) theory, expounded in detail in Cantero (2002) and Font-Rotchés (2007). The analysis protocol used is described in Cantero & Font-Rotchés (2009) and Font-Rotchés & Cantero (2009). This model provided me with a representational system used in this paper as well, we will get familiarized with the /+ interrogative/ intonational patterns used in yes-no questions in both Spanish and Hungarian. As for the intonational inventory of patterns, I will mostly refer to what I found in my corpora included in my doctoral dissertation, also taking into consideration other well-known intonational descriptions.

In the end, a semi-spontaneous corpora of 57 utterances (all yes-no questions) provided by Hungarian students of Spanish will be analysed to see whether Hungarian student apply Spanish intonational solutions in their Spanish yes-no questions; and if so, to what extent.

2. A brief outline of the theoretical background: Melodic Analysis of Speech

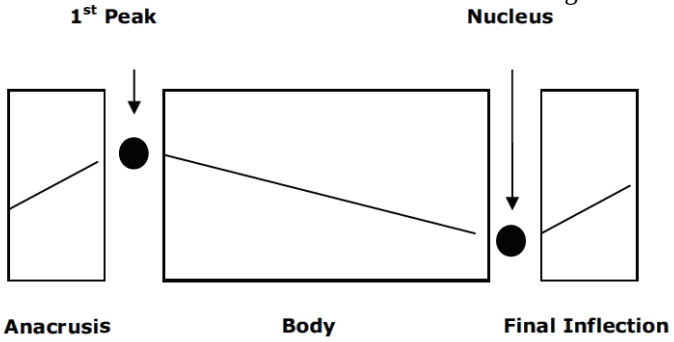
This section will concentrate on two basic constituents of the Melodic Analysis of Speech (Cantero & Font-Rotchés, 2009; Font-Rotchés & Cantero, 2009): the structure of the intonational unit and the representation of the melodies.

2.1 The structure of the melodic unit

The elements of the intonational unit for Cantero and Font-Rotchés are the following: **Anacrusis**, **Body** and **Final Inflection** (**FI**). By **Anacrusis** Cantero and Font-Rotchés mean the unaccented syllables preceding the **First Peak**, which is normally on the first accented vowel in the contour but can also be displaced to the left or to the right from

the first lexical stress[1]. They define as **Body** the syllables between the First Peak and the last accented vowel in the contour (the latter also known as the **Nucleus**), from which the **Final Inflection** begins, see Figure 2.1. Thus there are two important accents that separate these 3 parts, the First Peak and the Nucleus.

Figure 2.1 The structure of the intonational unit according to Cantero & Font-Rotchés



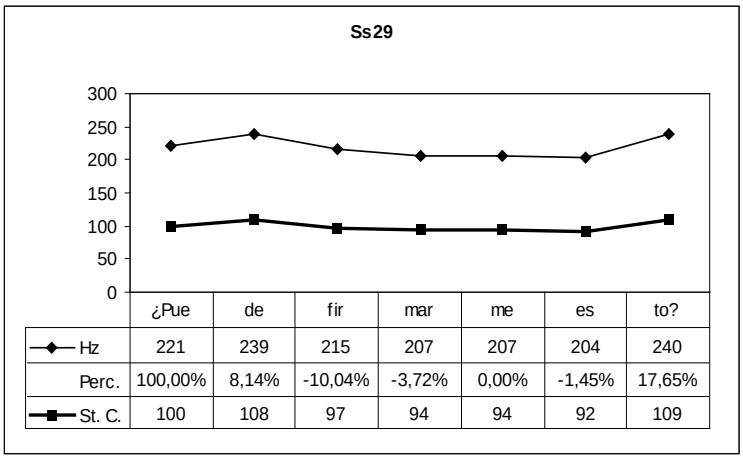
2.2 The representation of the intonational contours

Cantero and Font-Rotchés take their intonational data from spontaneous speech and accepts nothing but the phonetic reality as the basis of analysis. They analyse the intonation of each utterance with a voice analysis-and-synthesis programme, and standardize the received results – the F_0 value of each syllable – so that the intonation of the sentences by different speakers could be compared. The standardization procedure consists in representing the F_0 value of each syllable[2] as a percentage which the F_0 value amounts to relative to the F_0 value of the preceding syllable, while giving the first syllable the arbitrary percentage of 100%. For example, if in the sentence, *¿Puede firmarme esto?* 'Could you sign this for me?' the measured F_0 value for the first syllable is 221 Hz, and for the second syllable, 239 Hz, then it means a rise of 8,14% between the first and the second syllables; if the first syllable is given a value of 100 as a relative value, the second syllable must be given 108. In (1) it can be seen that the standardized curve is melodically identical to the original one:

[1] This implies that the Anacrusis can contain lexically stressed syllables when the First Peak is shifted to right of the first lexical stress.

[2] Syllables can contain one or more melodic units (= **mora**s) depending on whether their nuclei are accented or not. Unstressed syllables consist of one mora, whereas stressed syllables, when they carry a tonal inflection, can consist of two or more moras, depending on the nature of the tonal inflection: simple inflections require two moras, and complex inflections, three. This means that accented syllables in Spanish carry more moras, i.e., they are longer than unstressed syllables.
In their representation, in the case of last vowels it is the end point of the vowel, in the case of other vowels it is the mid-point of the vowel's duration where the pitch-height is measured.

(1)
| ¿'Puede firmarme 'esto?|
can-3sg sign-to me this
'Could you sign this for me?'



	¿Pue	de	fir	mar	me	es	to?
Hz	221	239	215	207	207	204	240
Perc.	100,00%	8,14%	-10,04%	-3,72%	0,00%	-1,45%	17,65%
St. C.	100	108	97	94	94	92	109

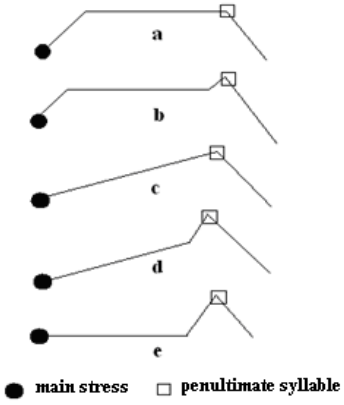
symbols: Hz =absolute F_0 values in Hertz; Perc. = percentages; St. C. = Standard Curve.

3. Hungarian intonational patterns in yes-no questions

Yes-no questions are used to ask for the confirmation or denial of a proposition. In Hungarian they have no syntactic or morphological markers of their yes-no question status, and so they differ from their declarative counterparts only in their intonation. They have an end-falling contour which takes different realizations depending on the number of syllables carrying it.

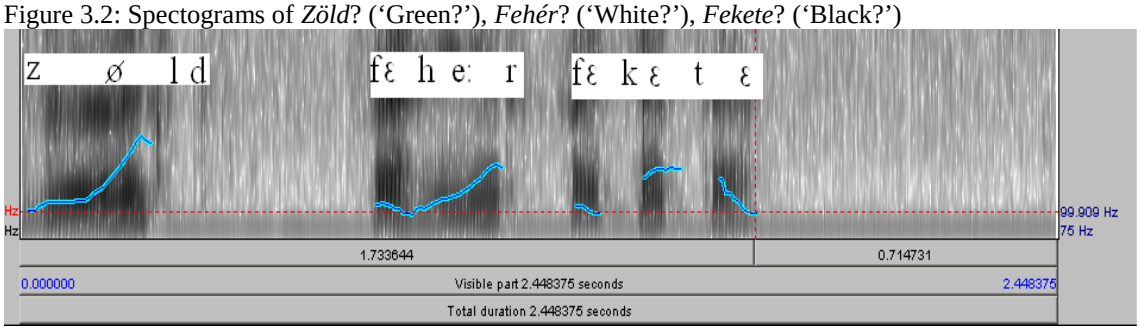
As my Hungarian corpus (referred to as Corpus 2 in my dissertation, with 27 spontaneous yes-no questions) testifies, in the rising-falling patterns the rise and the fall are realized most characteristically on the last three syllables of the utterance, independently of whether or not there is a lexical stress on one of these syllables. The rise may start from the accented syllable, but its most conspicuous part can be localized between the ante-penultimate and the penultimate syllables. The following figure shows the possible subtypes of this pattern (referred to as HP7 in my dissertation). As it is shown, the differences in the subtypes lie in the rising point of the rise itself with respect to the main stress. The fall, however, invariably starts from the penultimate syllable (cf. Varga 2002a and also Baditzné 2011b).

Figure 3.1 HP7 subtypes



The examples in Figure 3.2 show how the movement is realised on monosyllabic, disyllabic and trisyllabic utterances. In unsurprised yes-no questions the falling part cannot be perceived in monosyllabic utterances (Fig. 6.1.a), cannot be heard or can only be heard in some vestigial form in disyllabic ones (Fig. 6.1.b), and is fully perceptible only if the utterance consists of three or more syllables (Fig. 6.1.c). Mono- and disyllabic utterances were also analysed at 3 pitch points, to show the shape of the melody (the _ between vowels means that the syllable is represented in two tonal units).

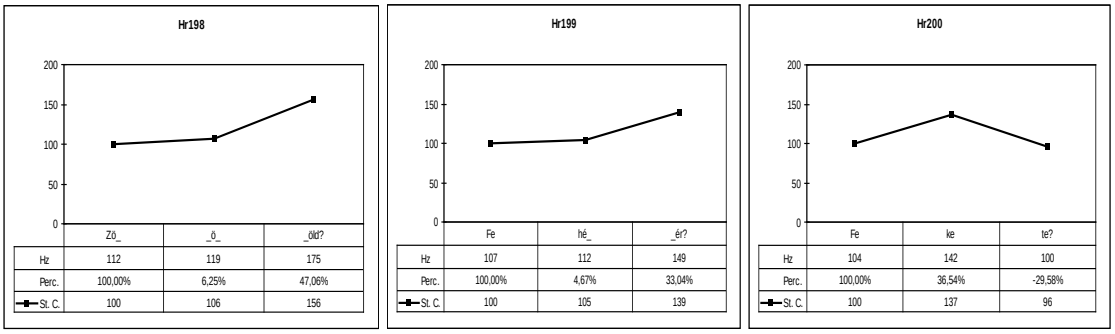
Figure 3.2: Spectograms of *Zöld*? (‘Green?’), *Fehér*? (‘White?’), *Fekete*? (‘Black?’)



(1) a.| 'Zöld?|
‘Green?’

b.| 'Fehér?|
‘White?’

c. | 'Fekete?|
‘Black?’



That the phonetically rising realizations of monosyllabic Hungarian yes-no questions are phonologically rise-falls is proved convincingly by Varga (2002b: 307-320).

Table 3.1 shows the extent (percentages) of the steepest rise and of the fall in the utterances. In most cases, the steep rise is located between the antepenultimate and the penultimate syllables, producing a peak on the penult. In some cases, however, this steepest rise characterizes the syllable before the antepenultimate one, producing a peak on the antepenult, a tendency observable in spontaneous speech (see also Markó 2007). Whether this phenomenon is an anomaly or a variant of the pattern, for example an emphatic one, is left for future research.

Table 3.1: The extent of rise and fall in HP7 patterns (yes-no questions of more than two syllables) The shaded column shows predominance.

	Extent of the steepest rise of the utterance in percentage terms			Extent of the steepest fall of the utterance in percentage terms		
	≤30%	30%- 50%	>50%	≤30%	30%- 50%	>50%
Spontaneous (27)	18 (67%)	9 (33%)	0 (0%)	8 (30%)	18 (66%)	1 (4%)

Table 3.2 examines whether in the utterances the extent of the steepest rise is bigger than that of the fall, or the other way round. Monosyllabic utterances are not taken into consideration.

Table 3.2: The dominant direction in HP7 patterns (yes-no questions of more than two syllables)

	Rise > Fall	Rise < Fall
Spontaneous (27)	4 (15%)	23 (85%)

The data in Tables 3.1-3.2 reveal the following facts:

In most cases, the steepest rise of the utterance is under 30%; and the fall (characteristically between the penultimate and the last syllables) is between 30% and 50%.[3] This information is complemented by the observation that in 85% of the examined cases the fall is bigger in percentage than the steepest rise. Thus, these contours are better characterized by their final fall than by their rising part, even though to the Spanish ear the rise is more perceptible than the fall. [4]

4. Spanish intonational patterns in yes-no questions

Simplified grammatical works about Spanish claim that the peninsular[5] Spanish yes-no questions have an intonational contour with a rising FI as opposed to question-word questions which have an intonational contour with a falling FI.[6] The rising FI is not

[3] In Spanish, though a final fall is considerably rarer in the case of yes-no questions than in Hungarian (in my corpus, only 33% of the yes-no questions present a final fall, cf.Table 4.2), the amount of the final fall in these cases is in the same interval of values, between 30% and 50%. (cf. Baditzné 2011a).

[4] This is so in yes-no questions of more than two syllables. As has already been pointed out, in mono- or disyllabic utterances, the falling part is hardly heard or not discernible at all. We might conclude that the falling part is missing in these utterances because they are too short to support two movements, and only the first one, – the rise –, is realized.

[5] There is considerable literature on yes-no question intonation in other, non-peninsular varieties of Spanish as well, cf. Llisterri (2011).

[6] On the universality (or at least the characteristic majority) of rising FIs for Spanish interrogative intonation, see Alcoba—Murillo (1998:160), Congosto et al. (2008: 9), Face (2007: 194), Fernández et al.

exclusive of yes-no questions, as polite question-word questions are also asked with such contours, for example (Seco 1999: 116-118).

According to the corpus analyses of Cantero & Font-Rotchés (2007), not only rising patterns (SP2, SP3[7]), but also rising-falling ones (SP4a and b, all detailed in 4.1) can signal the questionhood of a sentence for a listener. In my experience, based on my corpus of Spanish utterances (Corpus 1 henceforth, with 21 spontaneous Spanish yes-no questions), there are several further patterns that can appear in yes-no questions.[8] Still, in the present study, I will merely concentrate on the /+interrogative/ Spanish intonational patterns, that is, the ones that are perceived as interrogatives independently of the context and of the lexical content of the utterance.

4.1 /+Interrogative/ intonational patterns in Spanish

The dichotomy between a rising-interrogative and a falling-affirmative intonation is not universal.[9] According to Cantero's investigations (1988), for example, Hungarian questions have a falling FI rather than a rising one.[10]

We have four /+interrogative/ intonational patterns in Spanish (SP2, SP3, SP4a, SP4b). The common feature in all four is some sort of rise in the FI.

Naturally, /+interrogative/ should not be understood as the "intonation of questions", as the notion of "question" belongs to semantics and pragmatics, and it is not a phonological term. In Spanish, a /+interrogative/ contour can serve as a phonological marker of other types of utterances (not interrogatives) as well, such as "threat", or can indicate "politeness" in question-word questions, which normally would have a falling FI. Actually, question-word questions do have a falling /−interrogative/ contour identical to the one in declarative utterances because their interrogative nature is expressed by other, non-intonational means, such as interrogative pronouns (Cantero 2002: 137-139).

(2003: 191, 197), Henriksen (2010), Jiménez Gómez (2010: 296-297), Martínez Celdrán (2003: 72, 74), Quilis (1993: 429-431), Sosa (1999:30), Tapia (1995: 205, 207) and tacitly in Zamora et al. (2005: 127). Martínez Celdrán (2003: 78) agrees with Cantero (2002: 168-169) that in peninsular Spanish, absolute interrogatives must have a rising inflection starting from a low Syntagmatic Accent (the most characteristic stress of a melodic unit, from where the Final Inflection starts) in Spanish. A possible reason for this is that he made the informants read out yes-no questions. In read yes-no questions, presumably, speakers are cautious to read out the "expected, normative" version. Canellada—Madsen (1987) also found only rising FIs in yes-no interrogatives. Still, as Sosa (1999: 211) remarks, Cunningham (1983) found high falling FIs in Oviedo Spanish, and Díaz Tejera (1973: 106) also permits a circumflex intonation for yes-no interrogatives.

[7] In their code system, (melodic pattern) II and III, respectively.

[8] For these patterns, cf. Baditzné 2011c and Font-Rotchés—Mateo in press).

[9] Chickasaw, for instance, is reported to have rising patterns for declarative sentences and falling patterns for yes-no interrogatives, cf. Gussenhoven (2004: 54).

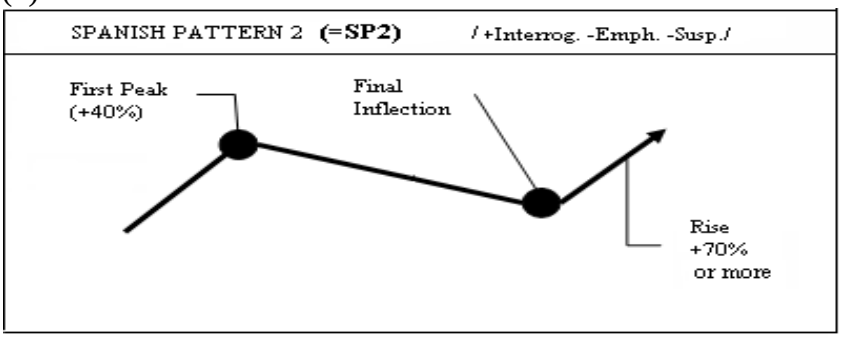
[10] Cantero does not specify in this work whether he investigated yes-no questions or question-word questions in Hungarian. He also cites Catalan questions as having falling FIs, but according to the most recent studies, only a minority of Catalan questions end in a falling FI, where from the context it is obvious that the utterance is a question; the vast majority have rising FIs (cf. Font-Rotchés 2008). On Hungarian questions, see 3.

The most important phonetic characteristic of the phonological feature /+ interrogative/ is the Final Inflection, which is characterised in Spanish by a rise higher than 70%, but normally over 100%. Rise up to 15% is still perceived as /–interrogative/ (that is, declarative), and a rise between 15 and 70% is identified as /+suspended/ by listeners.[11] So a rising FI is not automatically associated with the meaning /+interrogative/, the percentage of the rise is a decisive factor in the categorization.

Other melodic characteristics of /+interrogative/ contours are the following: the First Peak is situated at approximately the same height as the last point of the FI rise; and it may be displaced to the unstressed tonal segment following the first stressed vowel (Cantero 2002: 172-3).

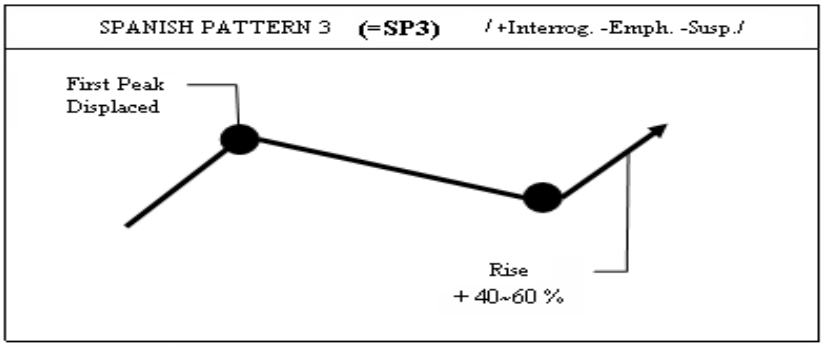
Now let us consider patterns SP2 and SP3, the most common /+interrogative/ patterns, shown in (2) and (3), respectively.

(2)



Anacrusis: Rise till the First Peak of up to 40%.
First Peak: The first stressed syllable, at the first highest point of the contour.
Body: Smooth descending.
Final Inflection: A rise of more than 70% (in most cases, more than 100%).

(3)

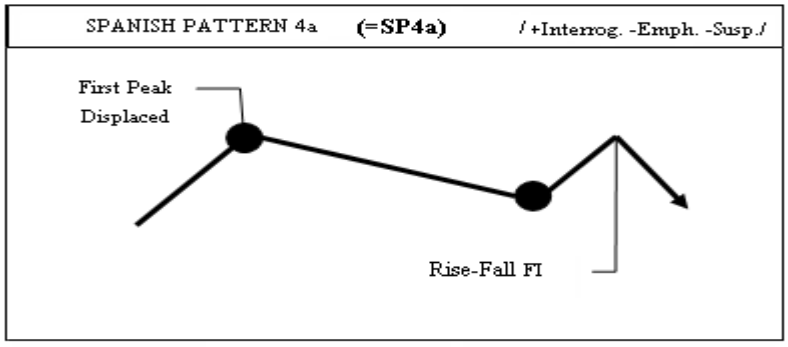


Anacrusis: Rise till the First Peak of up to 40%.
First Peak: Displaced to the unstressed syllable following the first stress.
Body: Smooth descending.
Final Inflection: A rise of 40-60%

[11] Actually, a rise between 40 and 60% in the FI is decoded as /+interrogative/ if the First Peak is displaced to the unstressed syllable following the first stress, see SP3 in (3).

The following two interrogative patterns, SP4a and SP4b, presented in (4) and (5), are of special interest to us, as their shape and function seem to be similar to those of their Hungarian counterparts. They are interrogative but have a restricted use, as mentioned in Navarro Tomás (1944).[12] Before Cantero—Font-Rotchés (2007), these patterns were not recognised among the interrogative ones, and it is interesting to note that Central European yes-or-no interrogatives tend to use a similar pattern (Grice et al. 2000: 148-162). The shape of the FI in SP4a and SP4b seems to be identical to the one applied in Hungarian yes-no interrogatives.[13] Since every FI should normatively start on the last lexically stressed syllable (the Syntagmatic Accent), and the FI has two directions, a monosyllabic FI would be lengthened to accommodate the three tonal segments; in a disyllabic FI one syllable would be lengthened to accommodate two tonal segments, and in an FI having three syllables or more there would be no lengthening.

(4)

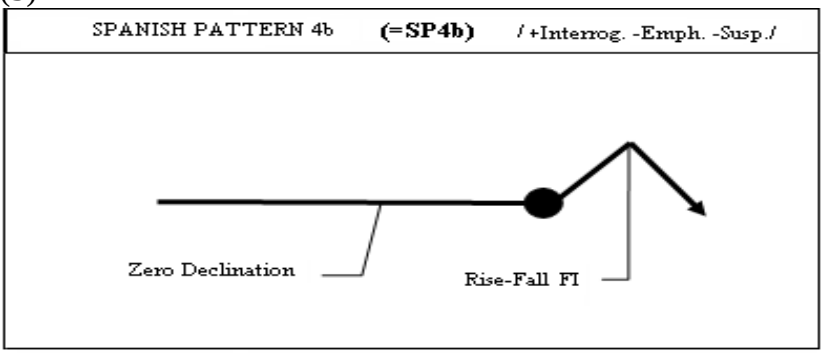


Anacrusis: Rise till the First Peak of up to 40%.
First Peak: Displaced to the unstressed syllable following the first stress.
Body: Smooth descending.
Final Inflection: Rise-Fall.

[12] Navarro Tomás (1944, 1966) found SP4b in the so-called "interrogación relativa" or "pregunta relativa" (a type of question to which the speaker already knows the answer).

[13] The Hungarian pattern is similar to the FI in SP4a in that it requires three tonal segments, but it is not initiated necessarily by a Syntagmatic Accent: it is a pattern that is not sensitive to lexical stress (for stresses which initiate FIs, see É. Kiss–Kiefer–Siptár (2003: 378)).

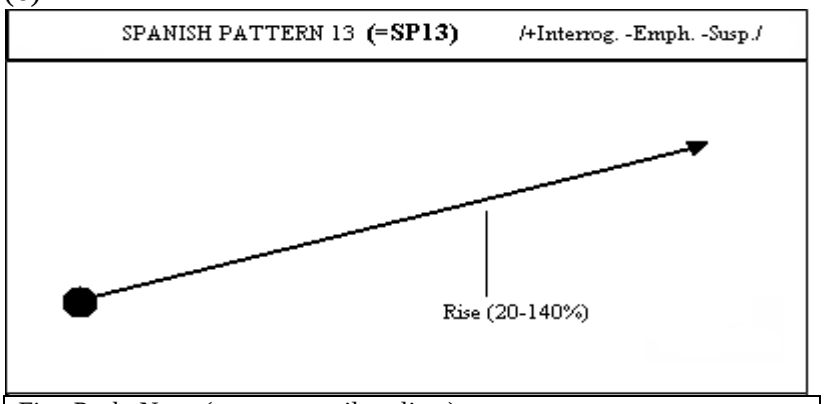
(5)



First Peak: None.
Anacrusis: Level.
Body: None.[14]
Final Inflection: Rise-Fall.

We must mention here a recently discovered pattern, classified as XIII (SP13 in my dissertation) in Font-Rotchés & Mateo (2011), which is somewhat different from the previous /+ interrogative/ patterns: it lacks a salient First Peak[15], and is defined as having a constantly but not abruptly rising Body.

(6)



First Peak: None (not necessarily salient).
Anacrusis: None (if there is no First Peak).
Body: Rising (altogether with the FI of 20-140%)[16]
Final Inflection: Rising.

4.2 A more detailed analysis of SP2

SP2 is a pattern with a high rise in the FI inexistent among the Hungarian patterns, and for this reason, it is of special interest to us, as theoretically it should be the most difficult to imitate for a Hungarian. This is why we go further in its description.

[14] Though in Cantero—Font-Rotchés (2007: 8) the description of SP4b speaks of a Body with plain declination, there is no Body only an Anacrusis here, since the First Peak is not realized.

[15] This pattern is already identified in N. Tomás 1966: 258, but he found it in the case of reiterative questions only.

[16] Strictly speaking there is no Body in this pattern either, as the Body is defined as having a First Peak. As this is a recently recognized pattern, its description needs further considerations.

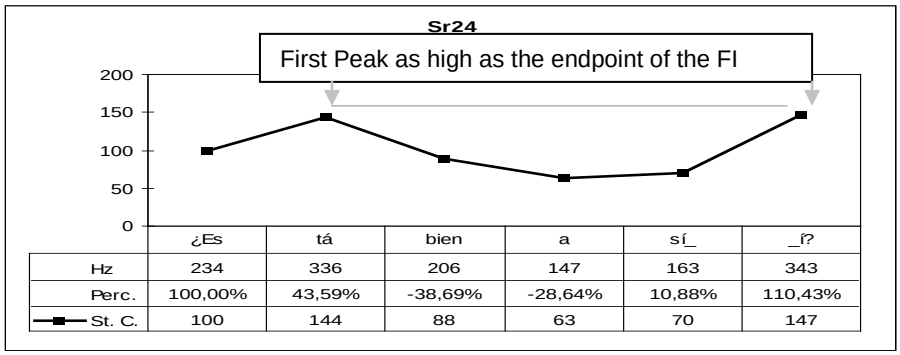
The normative yes-no intonational pattern in Spanish, SP2 (cf. (2) in 4.1) is said to have two predominant features (cf. Cantero & Font-Rotchés, 2007: 6):

- the First Peak is situated at the highest point of the utterance, higher than or at the same height as the endpoint of the Final Inflection; [17]

- the Final Inflection is characterized by at least a 70% rise starting from the Syntagmatic Accent or Nucleus; the rise often exceeds 100%.

Thus, a representative example of a "normative" yes-no question with these features would be (7).

(7)
| ¿Está bien a'sí?|
is well so
'Is it all right this way?'

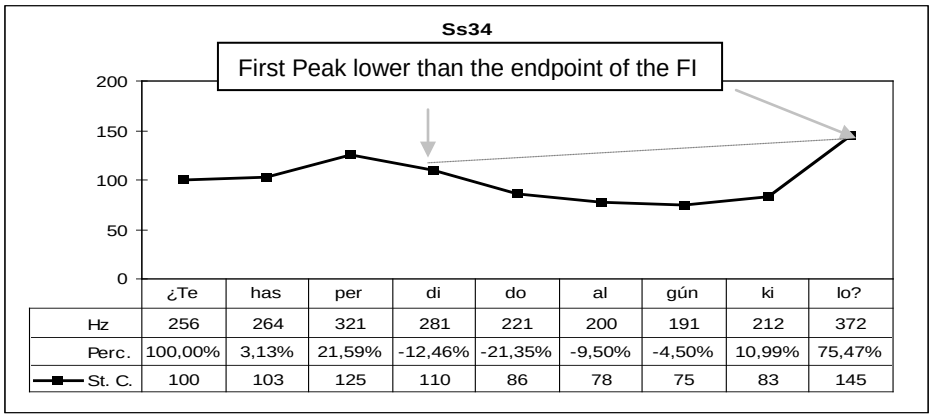


	¿Es	tá	bien	a	sí_	_í?
Hz	234	336	206	147	163	343
Perc.	100,00%	43,59%	-38,69%	-28,64%	10,88%	110,43%
St. C.	100	144	88	63	70	147

Nevertheless, in my spontaneous Corpus 1, among the 21 Spanish yes-no questions, the most frequent realization of SP2 is where the First Peak is situated somewhat lower than the endpoint of the Final Inflection, as in (8):

[17] Sosa 1999: 202 also describes the normative peninsular dialects as presenting the First Peak even higher than the endpoint of the final rise, as does N. Tomás (1944).

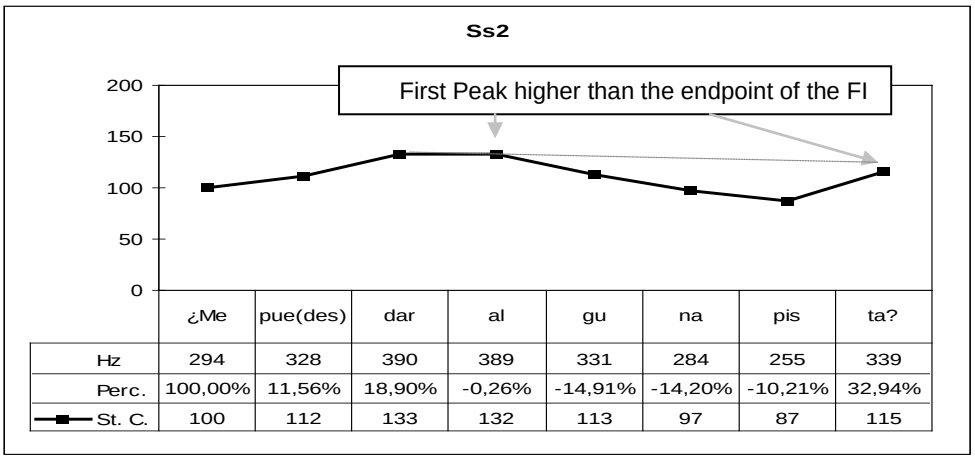
(8)
| ¿Te has perdido algún 'kilo?|
refl.pron.-2sg have-aux-2sg lost some kilo
'Have you lost some weight?'



	¿Te	has	per	di	do	al	gún	ki	lo?
Hz	256	264	321	281	221	200	191	212	372
Perc.	100,00%	3,13%	21,59%	-12,46%	-21,35%	-9,50%	-4,50%	10,99%	75,47%
St. C.	100	103	125	110	86	78	75	83	145

In some cases, it can also happen that the First Peak is situated higher than the endpoint of the FI, though this is less common (cf. (9)). A possible explanation for this is that the speaker runs out of air by the end of a long sentence and is unable to realize the endpoint of the FI as high as it should ideally be.

(9)
| ¿Me puedes dar alguna 'pista?|
me can-2sg give some hint
'Could you give me any hint?'



	¿Me	pue(des)	dar	al	gu	na	pis	ta?
Hz	294	328	390	389	331	284	255	339
Perc.	100,00%	11,56%	18,90%	-0,26%	-14,91%	-14,20%	-10,21%	32,94%
St. C.	100	112	133	132	113	97	87	115

Thus, we cannot localize the height of the First Peak with respect to the end of the FI exactly.

As for the position of the First Peak, it is normatively on the first stressed syllable, but in my corpus it frequently appears on a syllable after the first stressed one.

Table 4.1 shows the percentage of /+interrogative/ intonation patterns, whereas Table 4.2 shows the percentage of rising intonational patterns found in Spanish yes-no questions in Corpus 1.

Table 4.1: The /+interrogative/ intonational patterns in Spanish yes-no questions, according to Corpus 1

Patterns	Frequency in the corpus (21)
SP2	5 (24%)
SP4	3 (14%)
SP3	1 (4%)
SP13	1 (4%)

Table 4.2: The distribution of rising patterns in Spanish yes-no questions, according to Corpus 1

Patterns	Yes-no questions (21)
With an FI over 40%	7 (33%)
With an FI over 15%	14 (67%)

From both my corpus (Corpus 1) and the Font-Rotchés & Mateo (in press) corpus we can see that there are various patterns present in yes-no questions. The majority of the patterns rise: in my Corpus the 67% of the patterns end with a rise over 15%, and only 33% end in a fall.

5. The comparison of the intonational patterns applied in Hungarian and Spanish yes-no questions

As it can be seen from the previous sections, in the two languages there is a remarkable difference concerning the pattern types used in yes-no questions. Whereas Hungarian only applies a rising-falling pattern (characterized by the fall invariably starting from the penultimate syllable, or a moderate rise if the question is maximally disyllabic), in Spanish there are various different patterns that can be present in yes-no questions. These Spanish patterns include eminently rising and rising-falling patterns, if we take into consideration only the /+interrogative/ patterns. It is also remarkable that the intensity of Hungarian inflections is inferior to the values measured in the Spanish patterns (the Hungarian rises typically do not reach 30%, whereas in Spanish, in SP2 and SP3 they exceed the 40%).

Thus, as in Hungarian the use of a rising pattern is impossible in at least trisyllabic yes-no questions, and the steep rise (of over 70%, characteristic of SP2) is absolutely inexistent in the Hungarian inventory of intonational patterns, I will examine whether Hungarian students produce rising intonational patterns in their Spanish yes-no questions that exceed two syllables.

6. Corpus analysis: semi-spontaneous Spanish sentences produced by Hungarians

My semi-spontaneous[18] corpus (Corpus 3) contains 57 semi-spontaneous Spanish sentences, uttered by 21 Hungarian learners of Spanish, aged 17-18, who have been learning Spanish for three years.

[18] Though Cantero & Font-Rotchés work with only spontaneous utterances when analysing their intonation, in my case it would be hardly feasible, as it is not likely that Hungarians use Spanish

The corpus was based on various interviews acted out by students; they did not know that it was their intonation that was being tested, they were told that they were practicing for an oral exam. The produced utterances were recorded with a microphone, then they were converted into .wav format and analysed with the sound synthesis programme praat, following the guidelines set by Cantero &Font-Rotchés (2009).

The material of the study was provided by an interview; one of the students had to collect data on the travelling customs of the other. The questionnaire on which the interview was based is reproduced in Figure 6.1:

Figure 6.1: The questionnaire of Corpus 3

Datos personales 'personal details'

Sexo 'sex': hombre 'masculine' mujer 'femenine'
Edad 'Age': ....
Escuelas 'schools': primaria 'primary school' secundaria 'secondary school' superior 'superior'
Profesión 'occupation': .....

Preferencias 'preferences'	**✓ = sí 'yes' ✗ = no 'no'**
Viajar al extranjero	'travelling abroad'
Viajar con su familia	'travelling with his/her family'
Participar en viajes organizados	'participating in organized journeys'
Llevar dinero en euros	'taking money in euros'
Tener seguro de viajes	'having travel insurance'
Comprar regalos para los amigos	'buying gifts for the friends'
Escribir postales a la gente en casa	'writing postcards to the people at home'
Tomar el sol	'sunbathing'
Visitar museos	'visiting museums'
Probar la comida típica	'trying the country's typical dishes'

The interviewed students had to ask the "reporter" student whether the questionnaire was anonymous; whether (s)he had to tell the truth, and whether (s)he got a present at the end.

6.1 Intonational patterns used in yes-no questions in Corpus 3

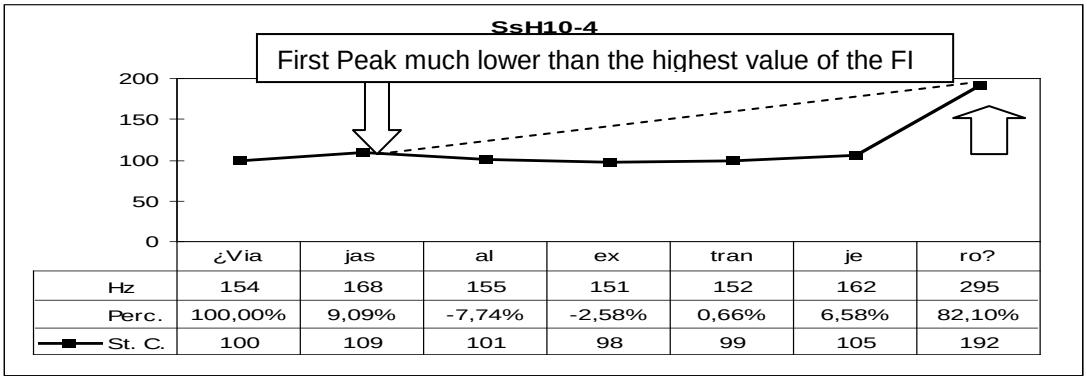
In this section we will concentrate on the presence and the characteristics of /+interrogative/ patterns in Corpus 3, produced by Hungarian learners of Spanish. We will pay special attention to SP2, as the melodic traits of this pattern are absolutely missing from the patterns in the Hungarian inventory of melodies. Also, we will focus on the proportion of rising patterns, as in Hungarian, the final rise cannot characterize the intonation of yes-no questions (unless they are maximally disyllabic, but among the 57 questions taken into consideration here all were at least trisyllabic).

In Corpus 3 the presence of the /+interrogative/ patterns is relatively low: 26%. Among these, SP2, the most "unlikely" intonational pattern for a Hungarian is represented by only 7%. In Spanish, we know that normatively the First Peak is at the same height as

utterances spontaneously. I obtained a semi-spontaneous corpus by making students interview each other in the topic of tourism, and this way they were induced to produce yes-no interrogatives as well.

the endpoint of the FI in SP2 (cf. 5.3), but in my Corpus 1 its most characteristic position was a bit lower than the endpoint of the FI. If we focus on the realization of SP2 in Corpus 3 (i.e. by Hungarian learners), we notice that the First Peak is never realized as high as or higher than the endpoint of the FI, but is usually much lower (for example, see (10)). Thus, in Corpus 3 it is the endpoint of the FI which is the highest point of a realized SP2.

(10)
| ¿'Viajas al extran'jero?|
travel-2sg to-the abroad
'Do you travel abroad?



	¿Via	jas	al	ex	tran	je	ro?
Hz	154	168	155	151	152	162	295
Perc.	100,00%	9,09%	-7,74%	-2,58%	0,66%	6,58%	82,10%
St. C.	100	109	101	98	99	105	192

Further analysis shows that in 49% of Corpus 3 the students produced a perceivably rising FI (that is, with a value of the rise over 15%). This proportion in the Spanish corpus is 67% (cf. Table 4.2).

Tables 6.1 and 6.2 sum up all these data about /+ interrogative/ pattern distribution and FI characteristics in the yes-no questions.

Table 6.1: The distribution of /+ interrogative/ intonational patterns in yes-no questions (Corpus 3)

Patterns	SP2	SP3	SP4b	SP13
Corpus 3 (57 questions)	4 (7%)	6 (11%)	2 (4%)	3 (5%)

Table 6.2: The characteristics of the FIs in the patterns applied in yes-no questions (Corpus 3)

The characteristics of the end of the patterns applied	Corpus 3 (out of 57 questions)
Patterns ultimately falling	13 (23 %)
Patterns ultimately falling Or ending in a low rise (below 15%)	29 (51%)
Patterns with a rise over 15%	28 (49 %)
Patterns ultimately rising	44 (77%)

As a summary of the intonational patterns found in Spanish yes-no questions produced by Hungarian learners of Spanish, we can make the following conclusions:

- though in Spanish the "normative" intonational pattern accompanying yes-no questions is SP2, the presence of this is scarce (7%) in Corpus 3 (as compared to the 24% in my Corpus 1). When Hungarian speakers use an SP2, it is never

realized with a "normative" First Peak as high as the endpoint of the final rise, but much lower. Still, we must add here that this normative trait (as well as the occurrence of SP2) is so not frequent in Spanish spontaneous speech either.

- the majority of Spanish yes-no interrogatives are characterized by a final rise; this is, somewhat surprisingly, also true for Corpus 3, though the value of the final rise in Spanish is higher (in Spanish, there is a final rise over 15% in almost 70% of the cases, but in Hungarian, in less than a half of the cases only).

Based on these observations, the areas which need more practice are the use of typical Spanish yes-no question intonational patterns such as SP2, for example, and the use of more rising patterns.

Knowing that in Spanish yes-no questions it is not only /+interrogative/ intonational patterns that can be used, we could have expanded our analysis to all the possible, not necessarily /+interrogative/ patterns as well. This could be a further step in our comparison; first, in my view, it is more important to teach students to use the most typical intonational patterns used in Spanish yes-no questions.

7. Conclusions

The aim of the present work was to examine if Hungarian learners of Spanish use the typical intonational solutions of the target language when making yes-no questions in Spanish. As a methodological framework, we used the representation system explained in Cantero & Font-Rotchés (2009).

First we contrasted the intonation of yes-no questions in Spanish and Hungarian. The two languages present a salient difference in the number of patterns applied in yes-no interrogatives. Whereas in Hungarian there is only one pattern, with a rise-fall movement (realized phonetically as a moderate rise in chunks shorter than three syllables), Spanish applies a great number of patterns (such as falling, rising or rising-falling ones). Out of these Spanish patterns, we took a closer look at the /+interrogative/ ones (i.e. the ones with a melody which is decoded as interrogative by listeners independently of the context). There is one Spanish pattern that received special attention: the one with a final rise of over 70% (referred to as SP2). The special interest lies in the fact that there is no similar pattern existing in the Hungarian inventory.

As hypotheses we expected that Hungarian will not realize minimally trisyllabic yes-no interrogatives with a rising melody as their native Hungarian solution is falling at the end, and they will not recur to SP2, as its final rise over 70% is not at all characteristic of Hungarian intonation.

Our hypothesis were partly attested:

- Hungarian students produced perceivably rising patterns (with a rise over 15%) less characteristically – in the 49% of the utterances – than falling ones. This proportion is not considerably smaller than the one presented by falling patterns

(or rising but with a rise smaller than 15%), still it does not correspond to what we have expected, because according to our expectations, a native Hungarian would produce falling (rising-falling) yes-no questions with an overwhelming majority.

- Hungarian students produced SP2 in only the 7% of their Spanish yes-no questions. This proportion roughly corresponds to what we have predicted, as it is remarkably low (as compared to the 24% in my Corpus 1). A salient feature of these SP2 patterns produced by Hungarians is that their First Peak is never situated as high as the endpoint of the final rise, contrarily to what we find in prescriptive descriptions of this pattern in the Spanish linguistic tradition.

As a summary with pedagogical implications, we can state that Hungarian students should be taught to a more frequent use of SP2 in their Spanish yes-no questions, as well as to a more extended use of rising patterns.

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