

IV Workshop on Sp_ToBI: Transcription of Intonation of the Spanish Language

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Mexican Spanish

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Previous studies

- Several **Mexican Spanish intonation contours** have been described in a variety of studies, namely, Matluck 1951, Kvavic 1974, 1979, Sosa 1999, Prieto et al. 1995, Ávila 2003, Beckman et al. 2002, Martín Butragueño 2003a, 2003b, 2004, 2005a, 2005b, among others; see Martín Butragueño 2006 for a review).
- The so-called '**circumflex**' **nuclear configurations** have been described as early as in Matluck (1951), Quilis (1993) and Sosa (1999), and have been recently analyzed in depth by Martín Butragueño's work (2003a, 2003b, 2004, 2005a, 2005b).
- No previous effort in **describing the complete inventory of pitch accents and boundary tones** of the dialect that includes a characterization of **FO contours used for different pragmatic meanings** (but see Martín Butragueño 2003c and the DIME project at the DCC-IIMAS, UNAM).

Goals

Mexican Spanish

- To describe the **inventory** of **nuclear pitch accents and boundary tones** found in Mexican Spanish (**México DF**) using the **Sp_ToBI** labelling conventions proposed by Beckman et al (2002) and later Estebas & Prieto (2008).
- To analyze the variety of **contrastive pitch configurations** present in the dialect, and their **meanings**.
- In relation with the goal of the workshop, to note the **differences** between the Mexican Spanish intonation contours and the intonation contours produced in **other Spanish varieties**.

Corpus

- The **elicitation** of the data was done through an established survey based on that proposed by Prieto (2001).
 - The survey is designed to **evoke everyday situations** by presenting the subject with a series of **situations**.
 - It contains a **variety of sentence-types** (statements, yes-no questions, wh-questions, imperatives) that convey **different pragmatic meanings** (incredulity, confirmation, obviousness, etc.).
- The **interviews** were conducted by a **native speaker** of the dialect (Itzel Moreno) and one of the **investigators**.
- **Three female speakers** from **Mexico D.F.** aged 27 and 28
- A total of **204 sentences** were analyzed with **Praat** (Boersma & Weenink 2008)

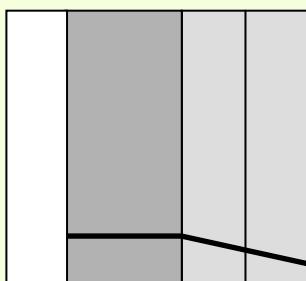
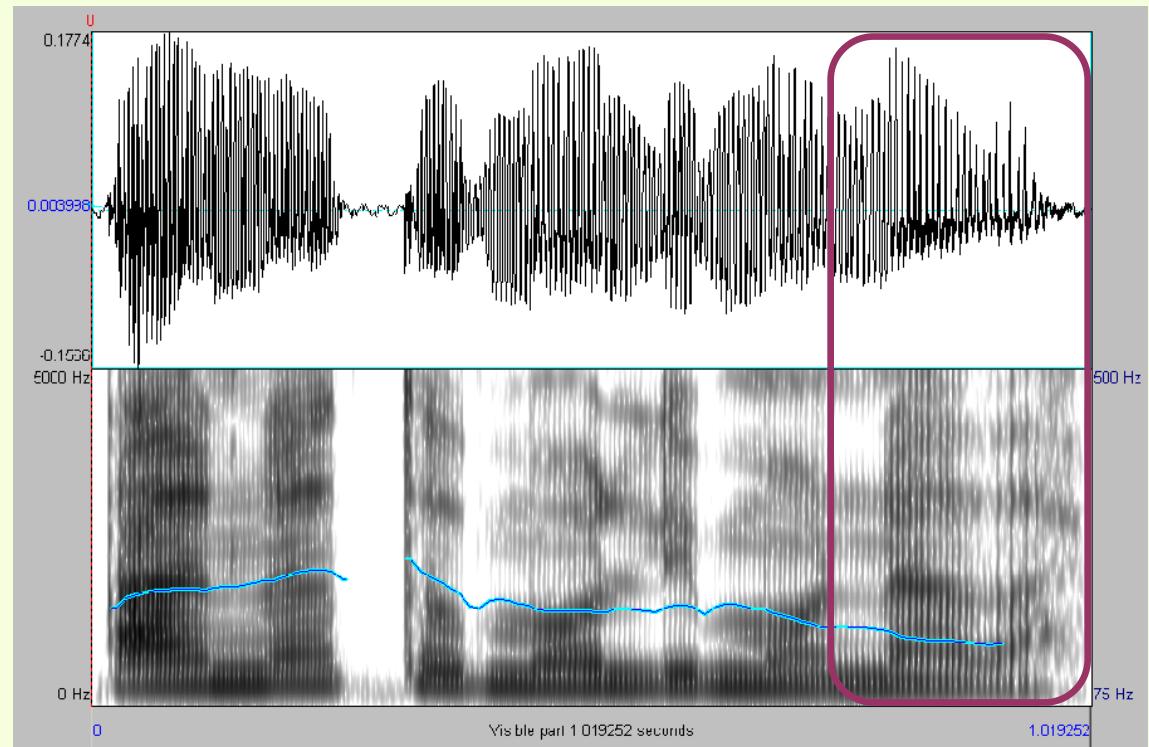


Utterance types

- **Declaratives**
- Interrogatives
- Imperatives
- Vocatives

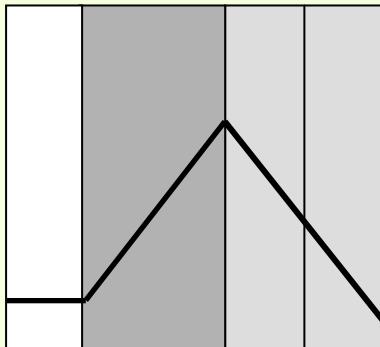
1. L* L%

Ana tomó limonada (K, 648)

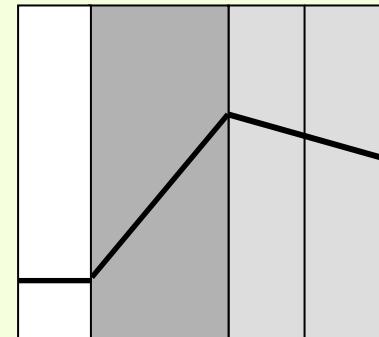


2. ‘Circumflex’ configurations

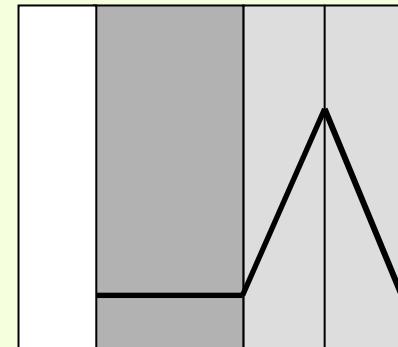
L+H* L%



L+H* M%



L* HL%



2.1. L+H* L%

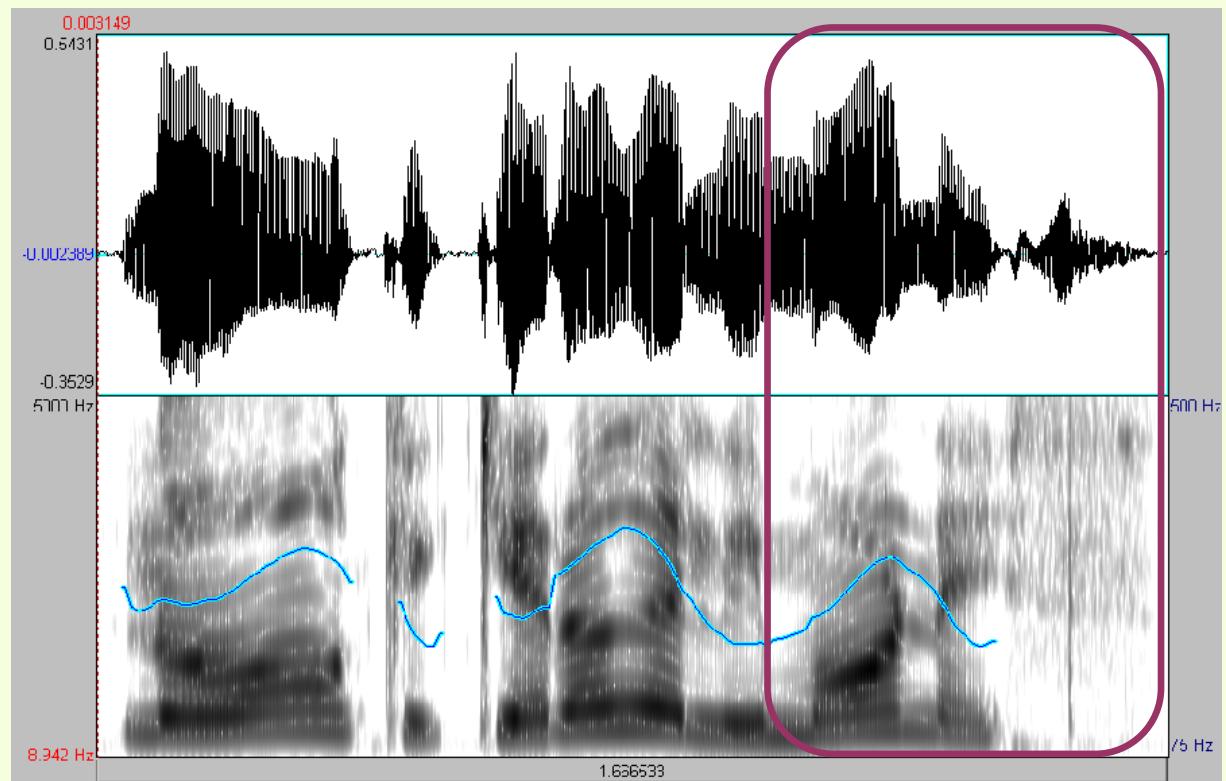
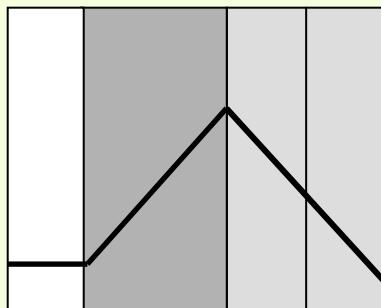


Narrow focus statement

- *No, que quiero de limones (I, 776)*



High



L+H* L%

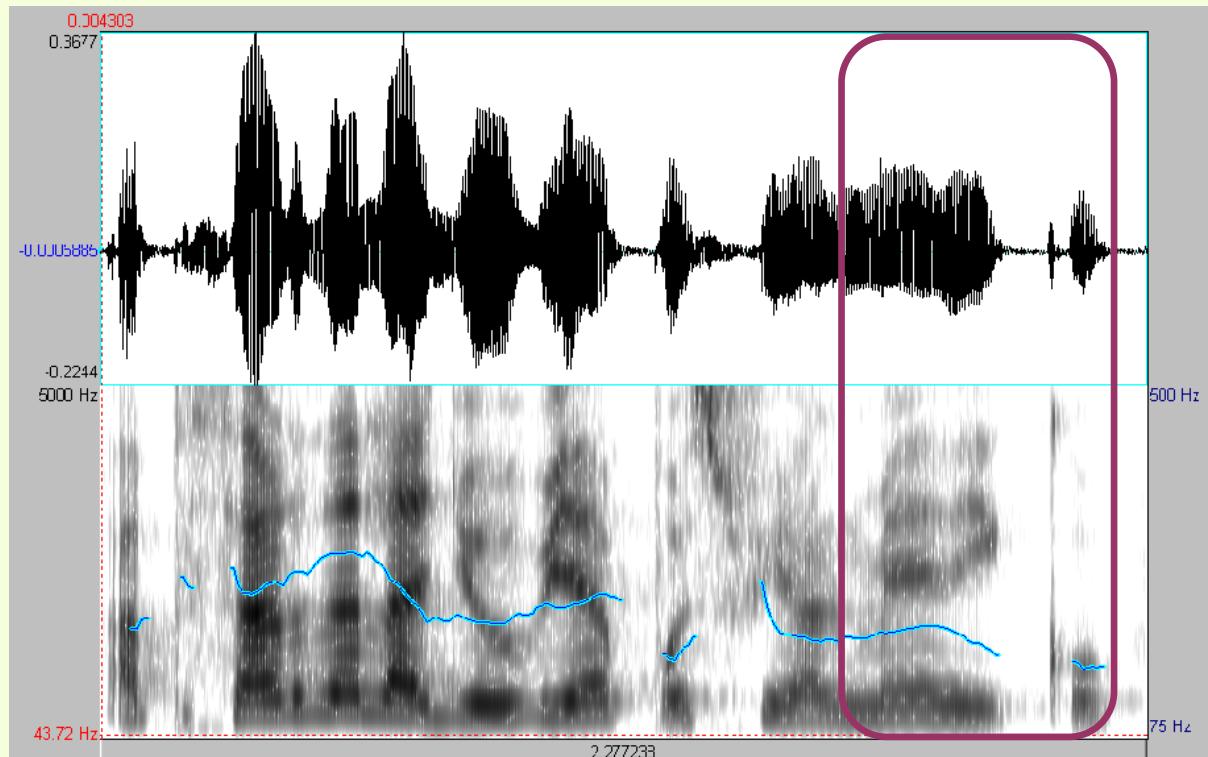
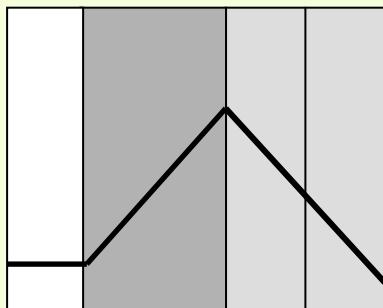
Statement



- *A pesar de la lluvia, pues fui al médico (I, 105)*



High



2.2. L+H* M%

Obviousness statement

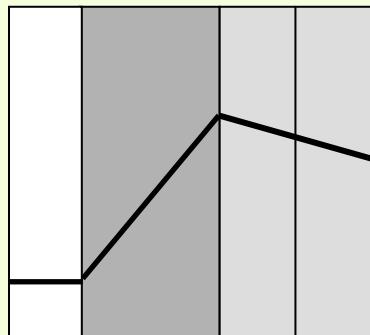


Similar to Puerto Rican Sp.

(Armstrong, this Workshop).

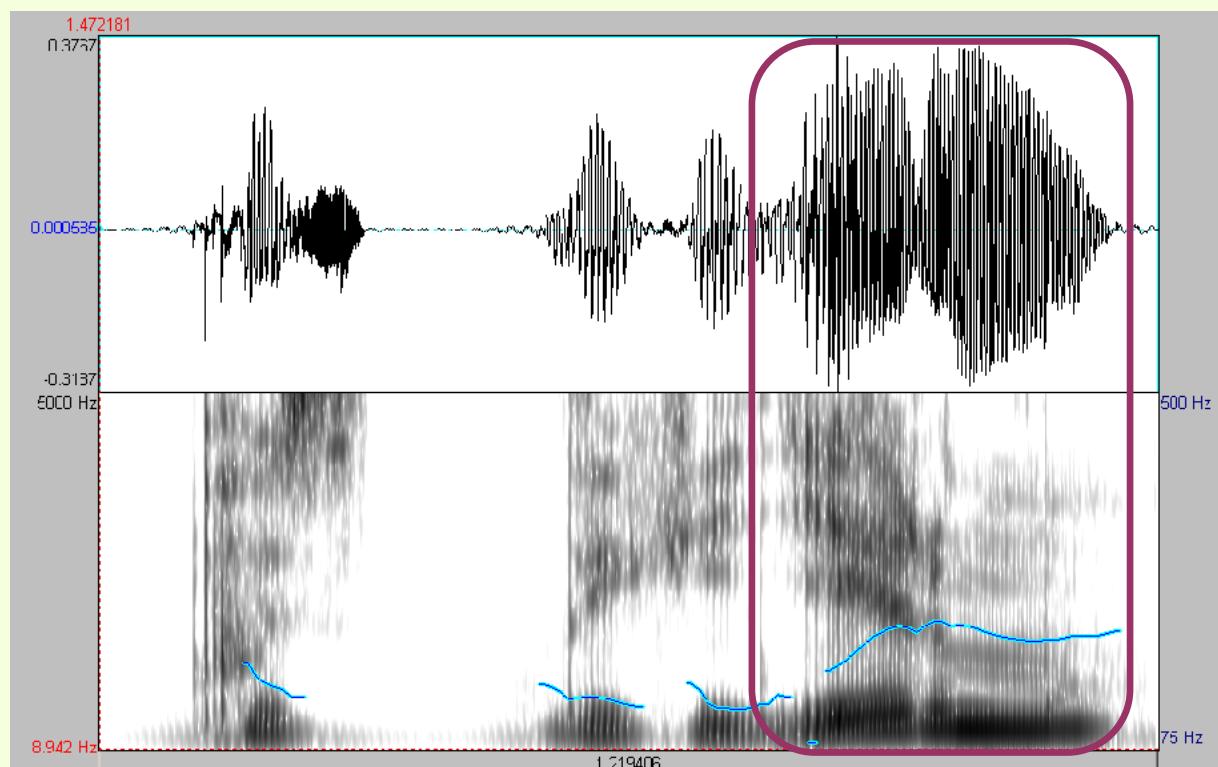
Might be the compressed version of L+H*LM% in other varieties.

High



[*¿Cómo que de quién?*]

Pues... ¡de Guillermo!! (K, 673)



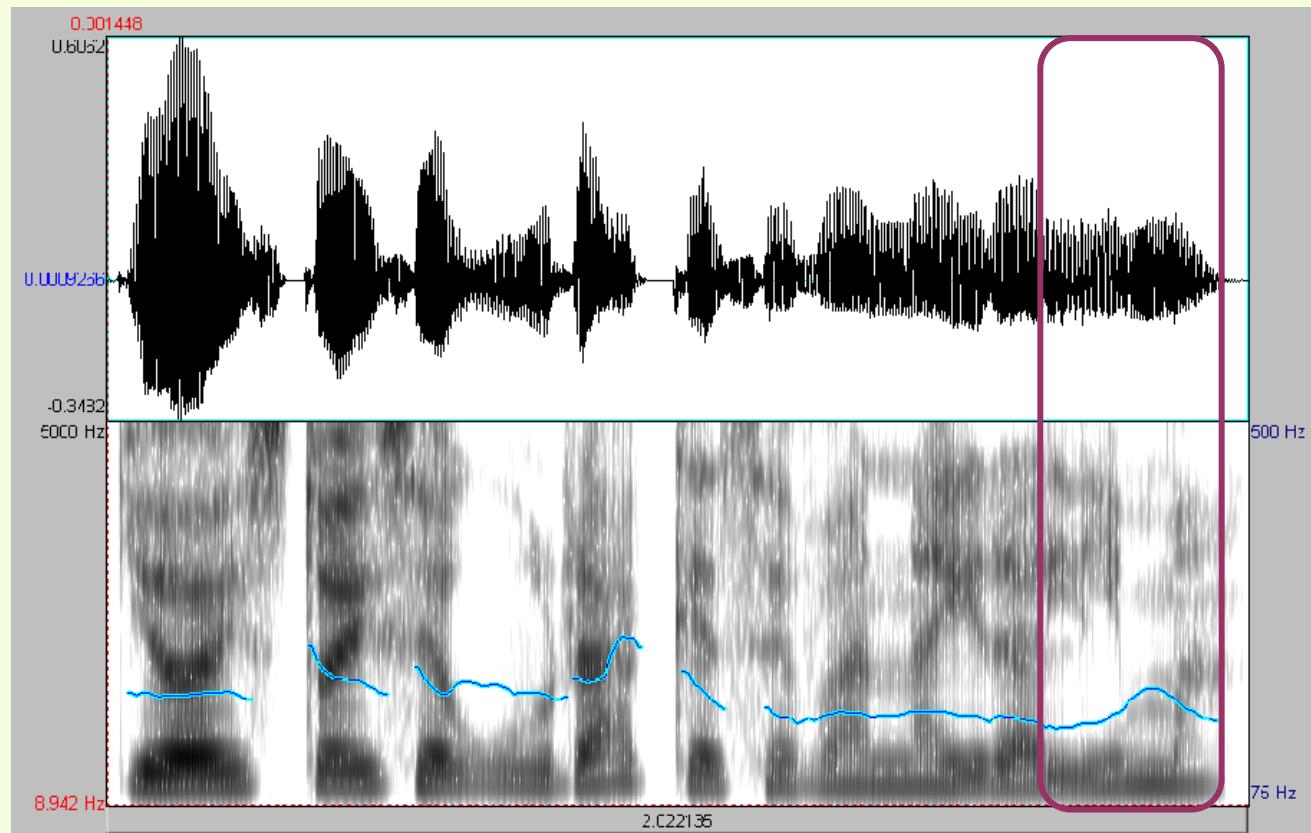
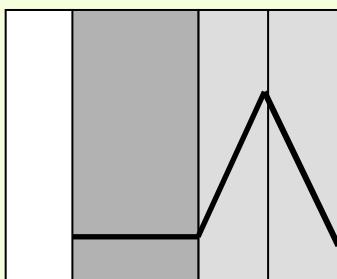
2.3. L* HL%

Categorical statement



Yo estoy segura que se van a ir a Lima (M, 519)

Low

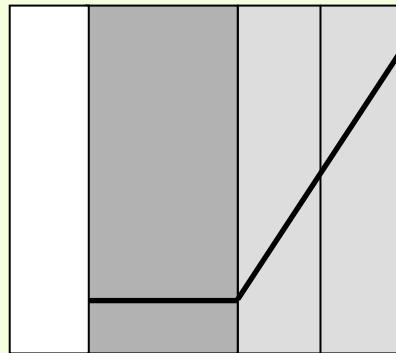


Utterance types

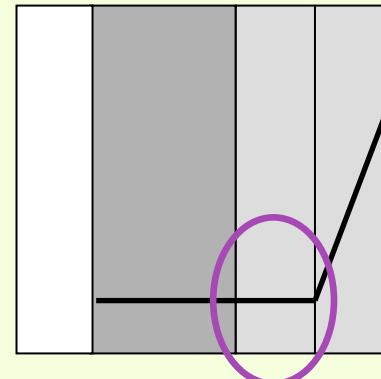
- Declaratives
- **Interrogatives**
- Imperatives
- Vocatives

1. Yes-no questions

L* HH%



L* LH%



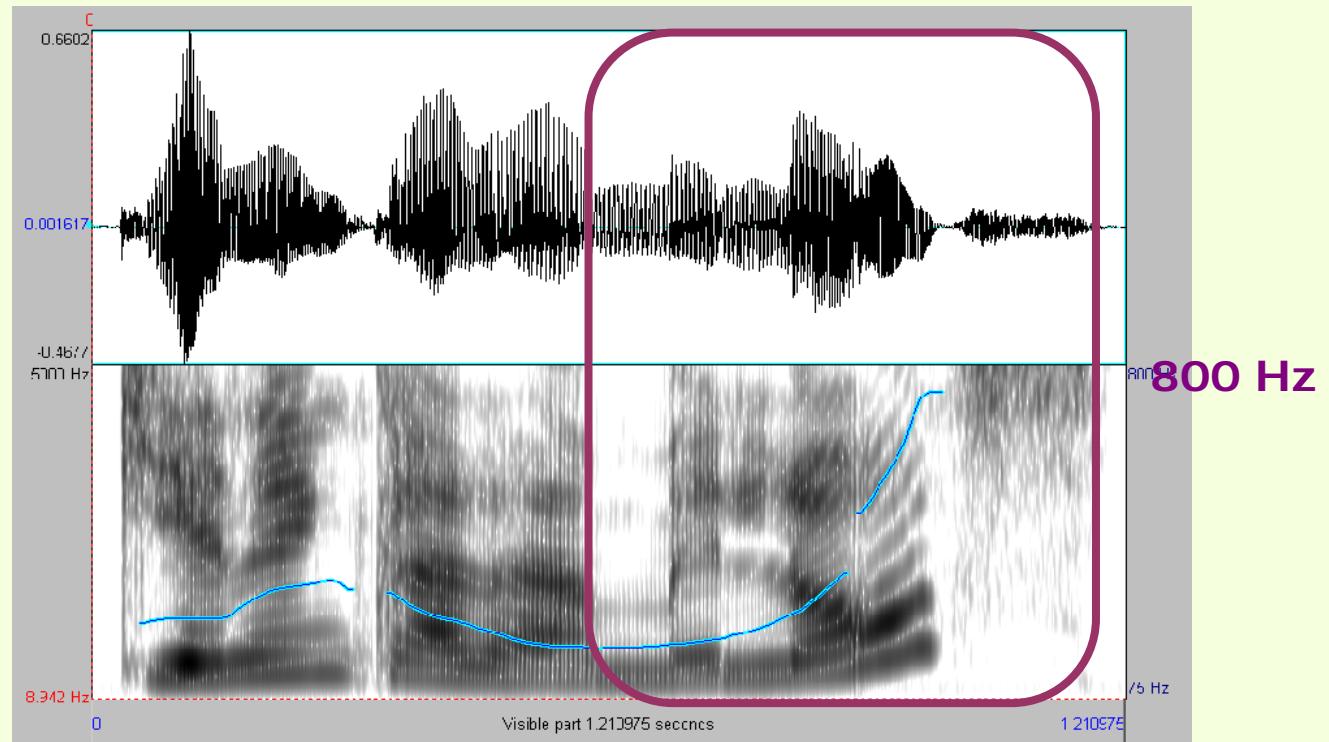
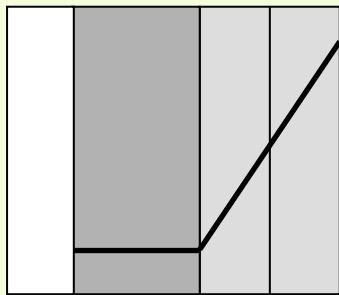
1. L* HH%

Invitation yes/no question



- *¿Quieren caramelos?* (M, 572)

HH%



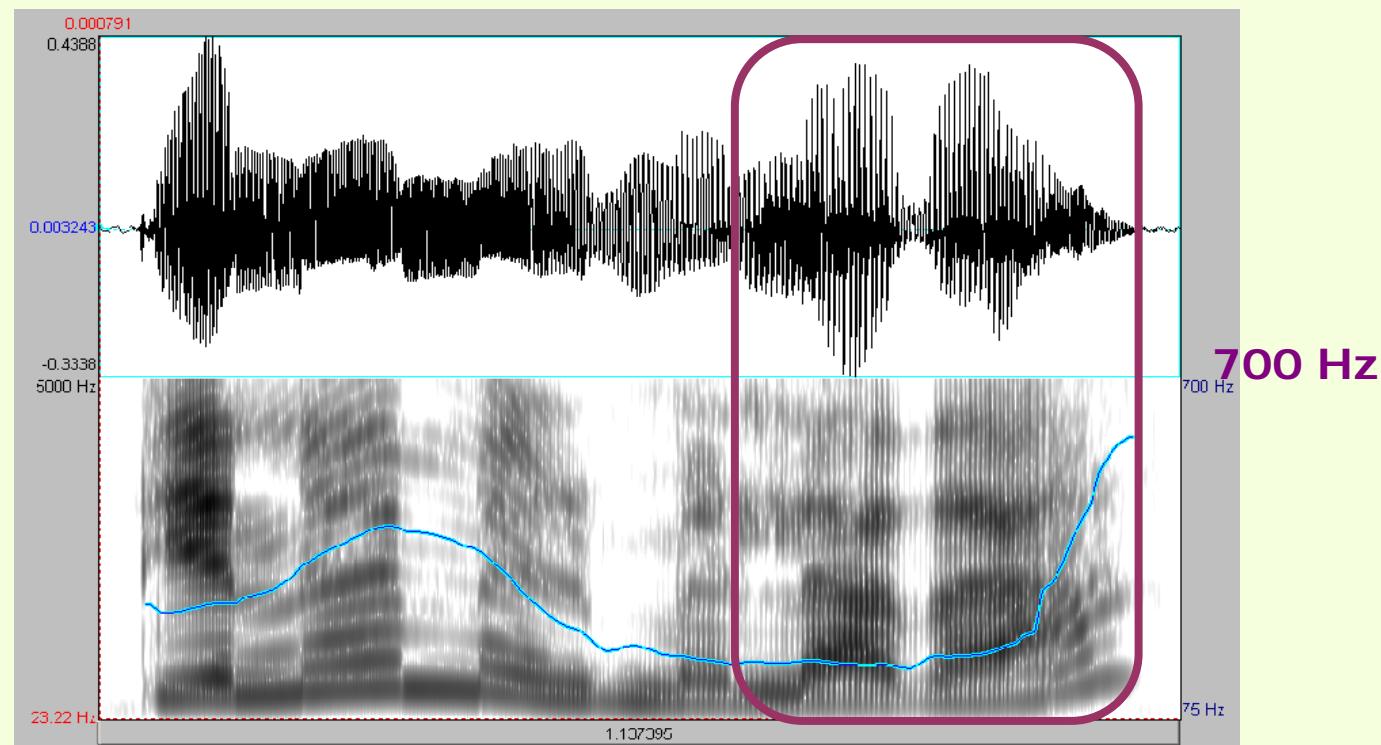
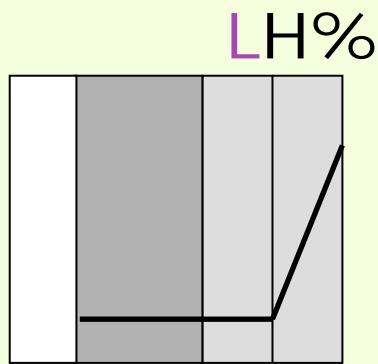
2. L* LH%

Neutral-polite yes/no question



Quilis (1993), Sosa (1999) and Martín Butragueño (2002) also report a higher and a longer final rise.

- *¿Tiene mermelada?* (M, 533)

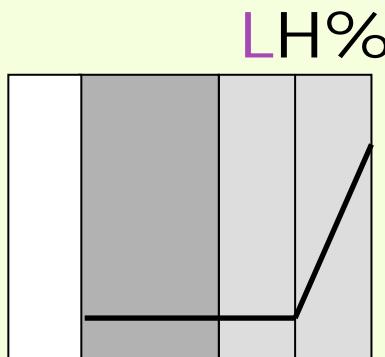


Hypothesis

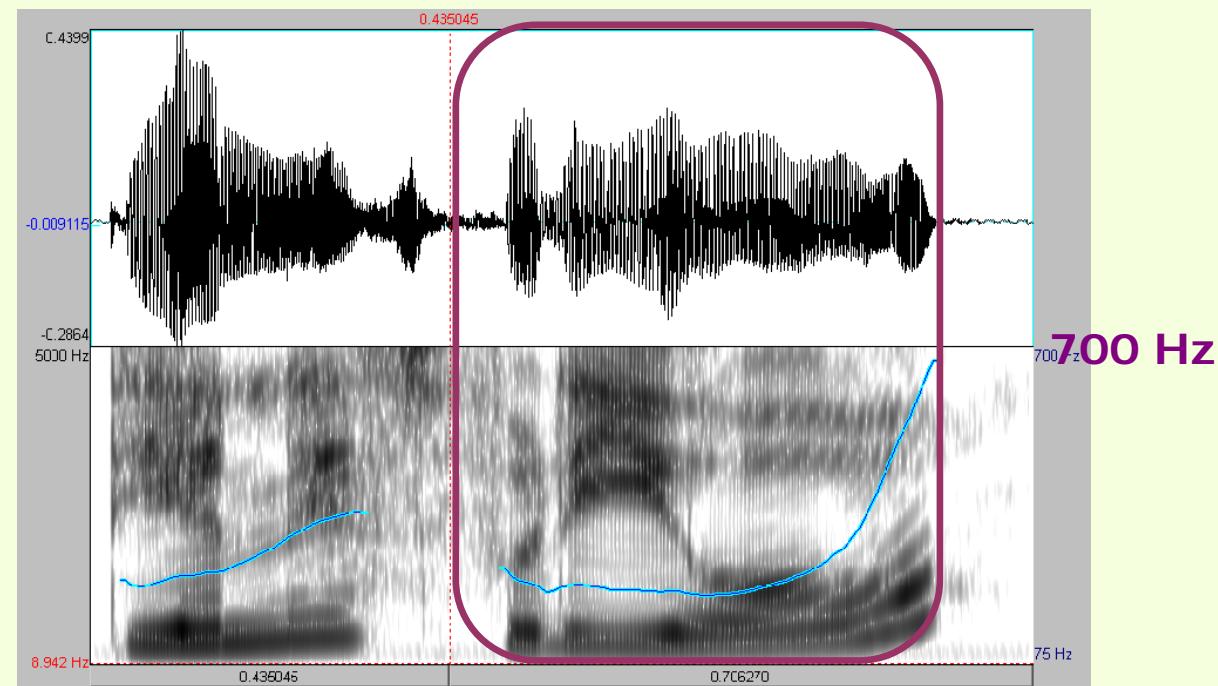
Same contour

Scaling: higher

Duration: longer



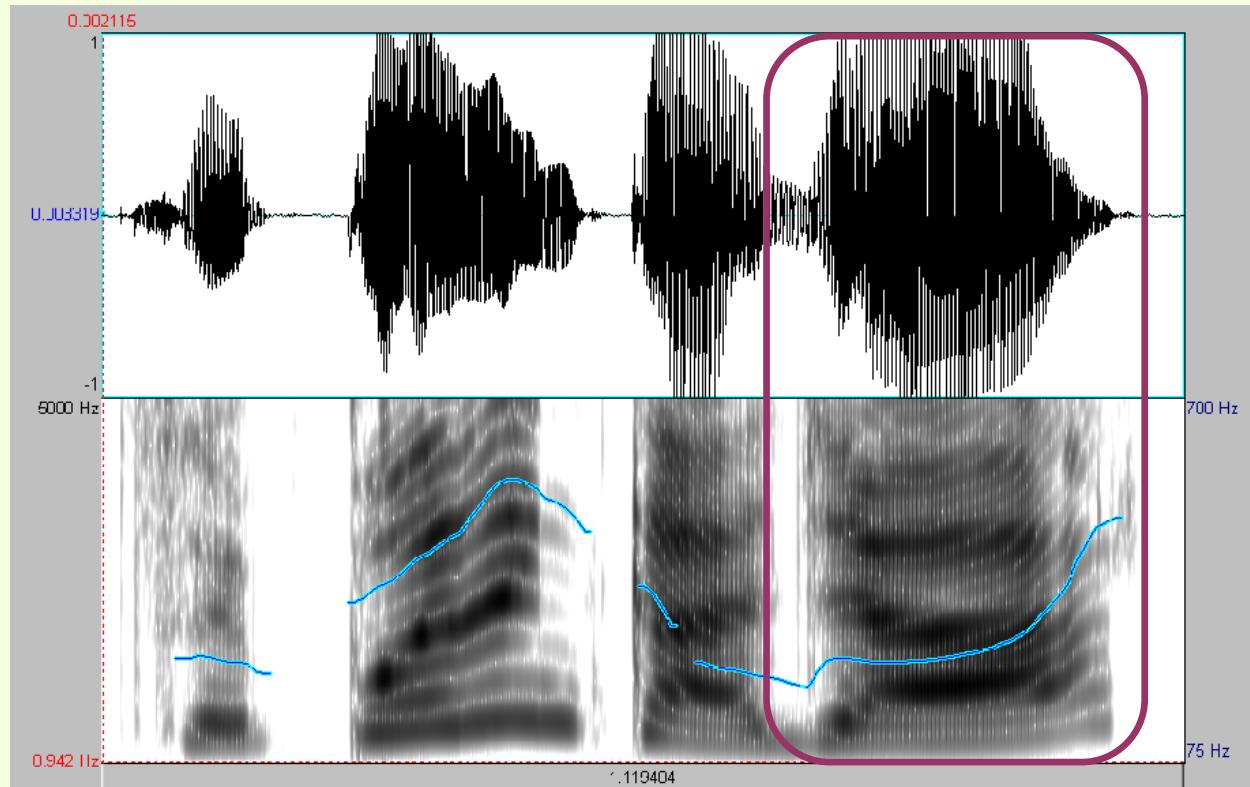
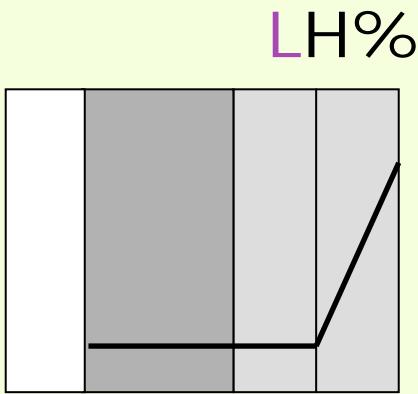
- *i¿Tienes frío?! (M, 556)*

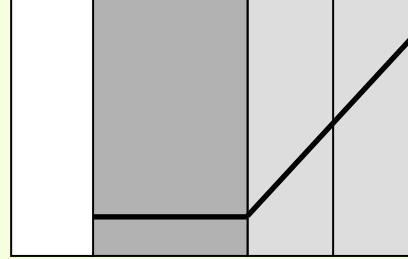
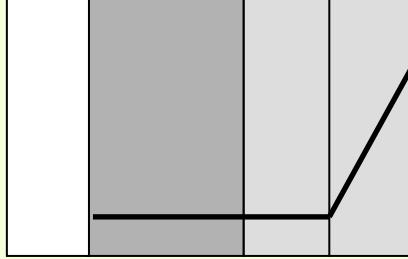


Imperative yes/no question



□ ¿Se pueden callar? (K, 709)

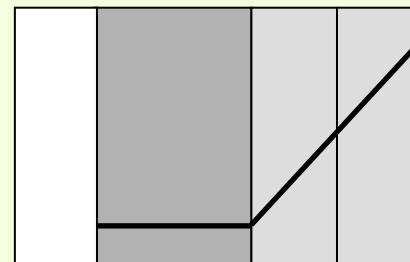
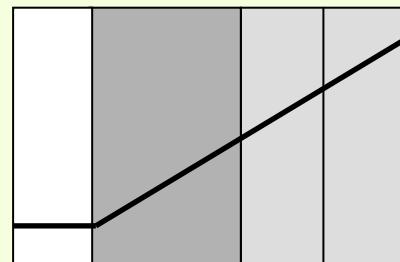


L* HH%	L* LH%
	
Mexican Spanish	
-invitation yes/no questions	-neutral-polite yes/no questions
	-anti-expectative questions -imperative yes/no questions

Is there a phonological contrast?

L+H* HH%

L* HH%



Peninsular Spanish

-invitation
yes/no questions

-neutral-polite
yes/no questions

Risings in questions: Mexican *vs.* Peninsular Spanish

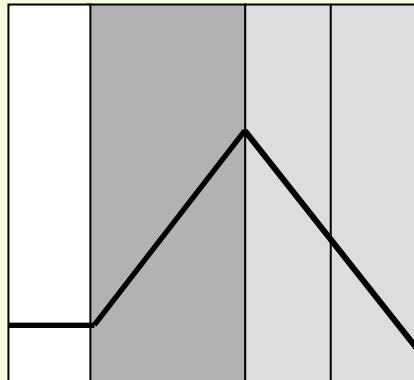


L+H* HH%	L* HH%	L* LH%
Mexican Spanish		
-invitation yes/no questions		-neutral-polite yes/no questions
Peninsular Spanish		
-invitation yes/no questions		-neutral-polite yes/no questions

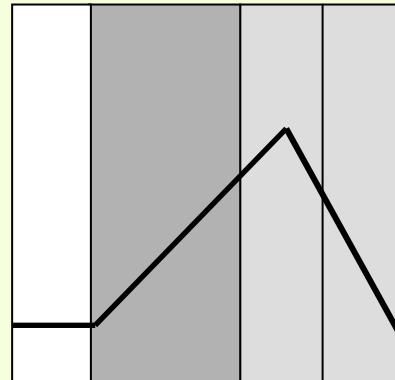
2. Wh- Questions and 'Circumflex' configurations



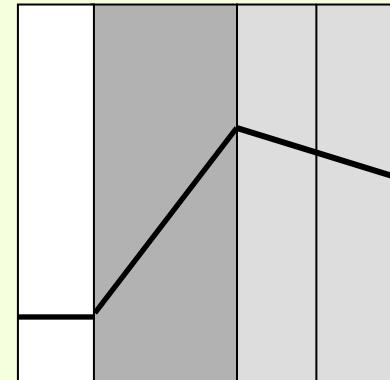
L+H* L%



L+H* HL%



L+H* M%



Is there a phonological contrast?

1. L+H* L%

Exclamative Wh- question

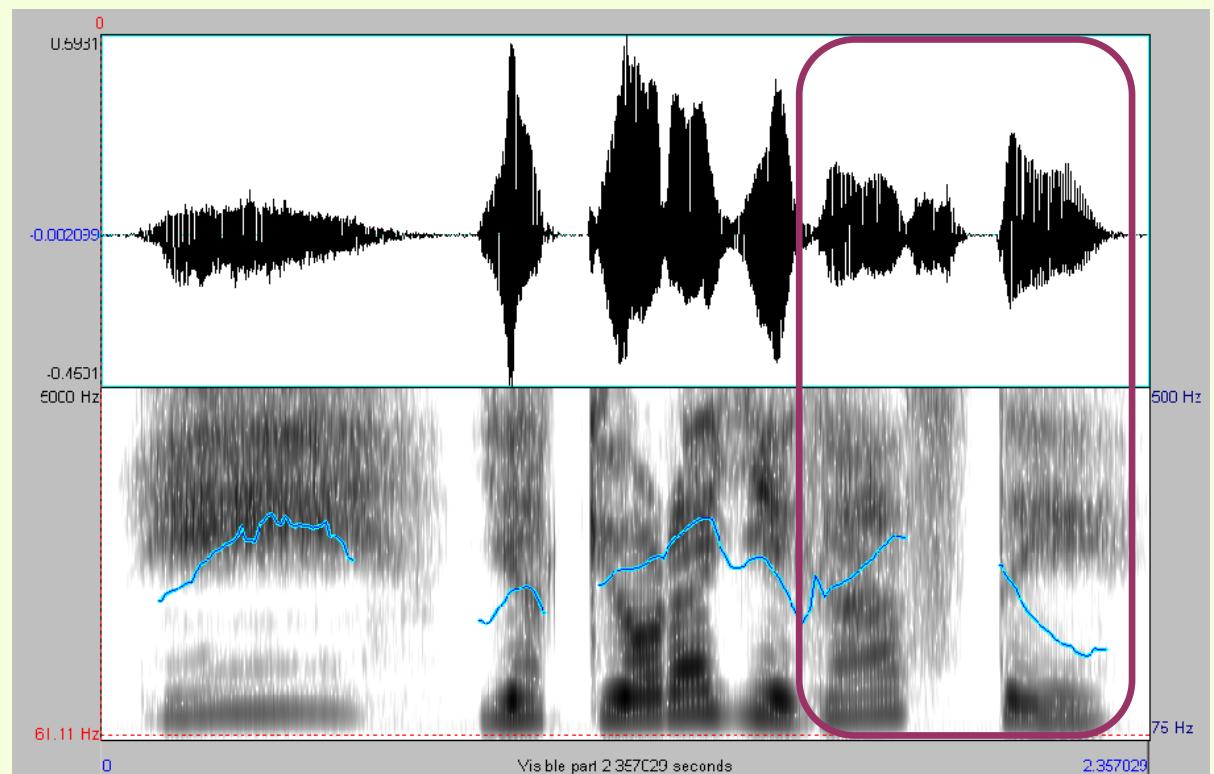
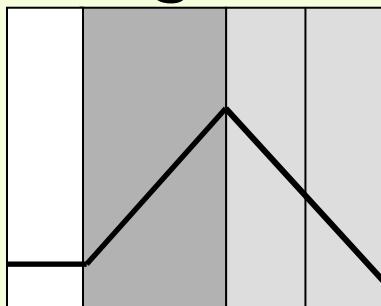


- *j!h! ¿Y a qué hora llegaste? (M, 590)* 🔊

Hypothesis:

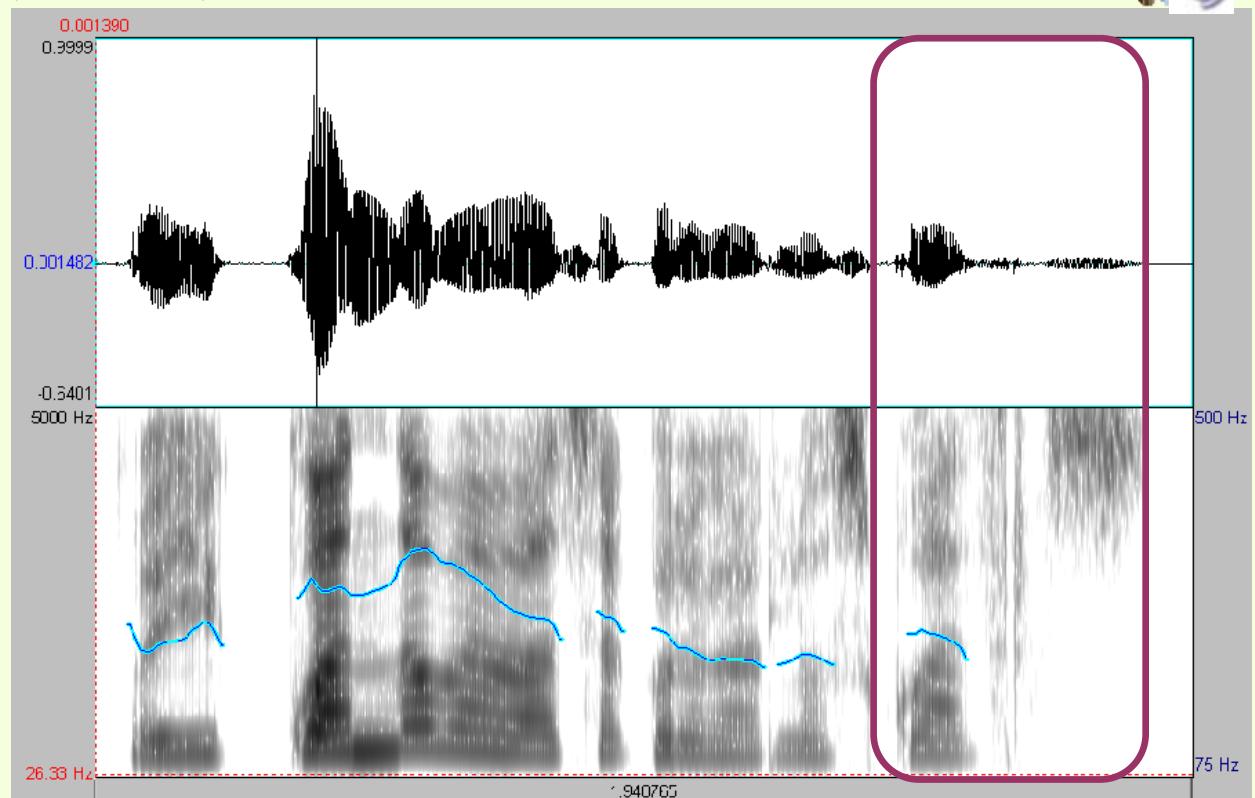
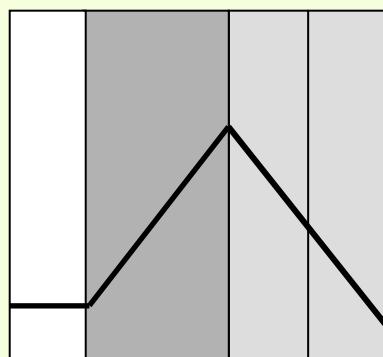
Emphatic content,
like narrow focus
statements
Scaling: high

High



Imperative Wh- question

- *Oye, ¿y cuándo me vas a colgar los cuadros?*
(K, 731)

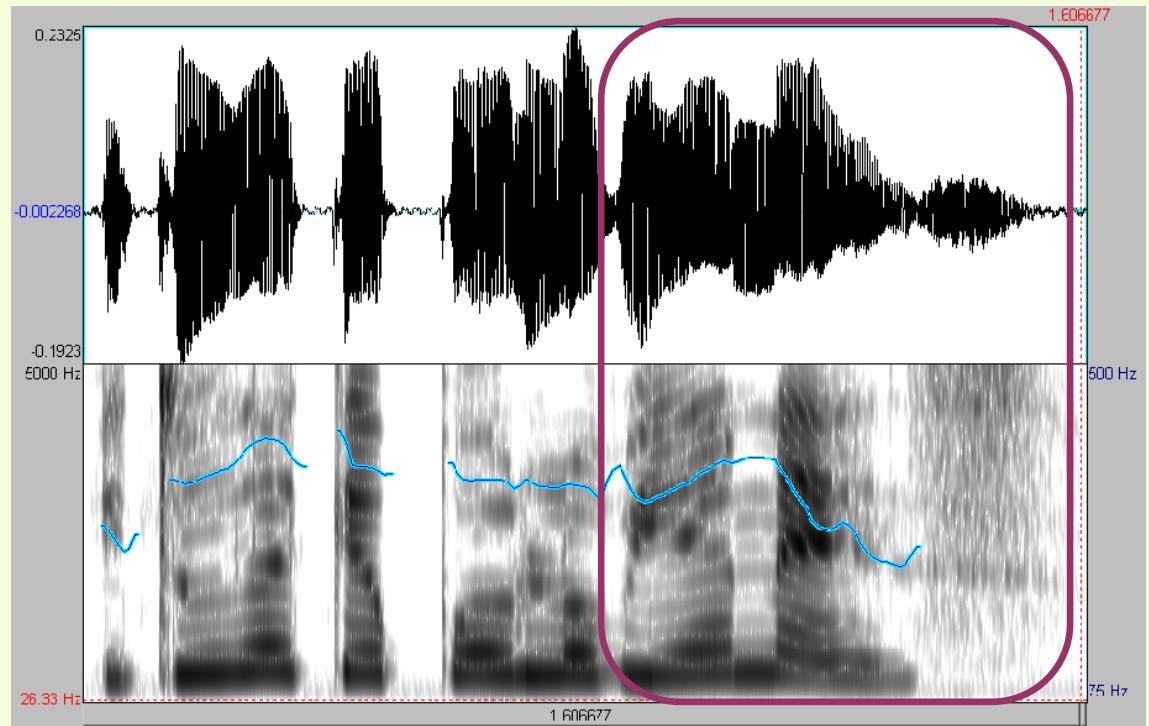
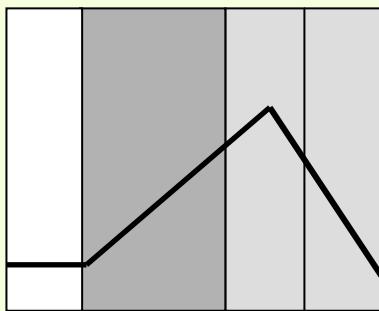


2. L+H* HL%

Wh- question



- *¿Y tú de qué pueblo vienes? (I, 797)*

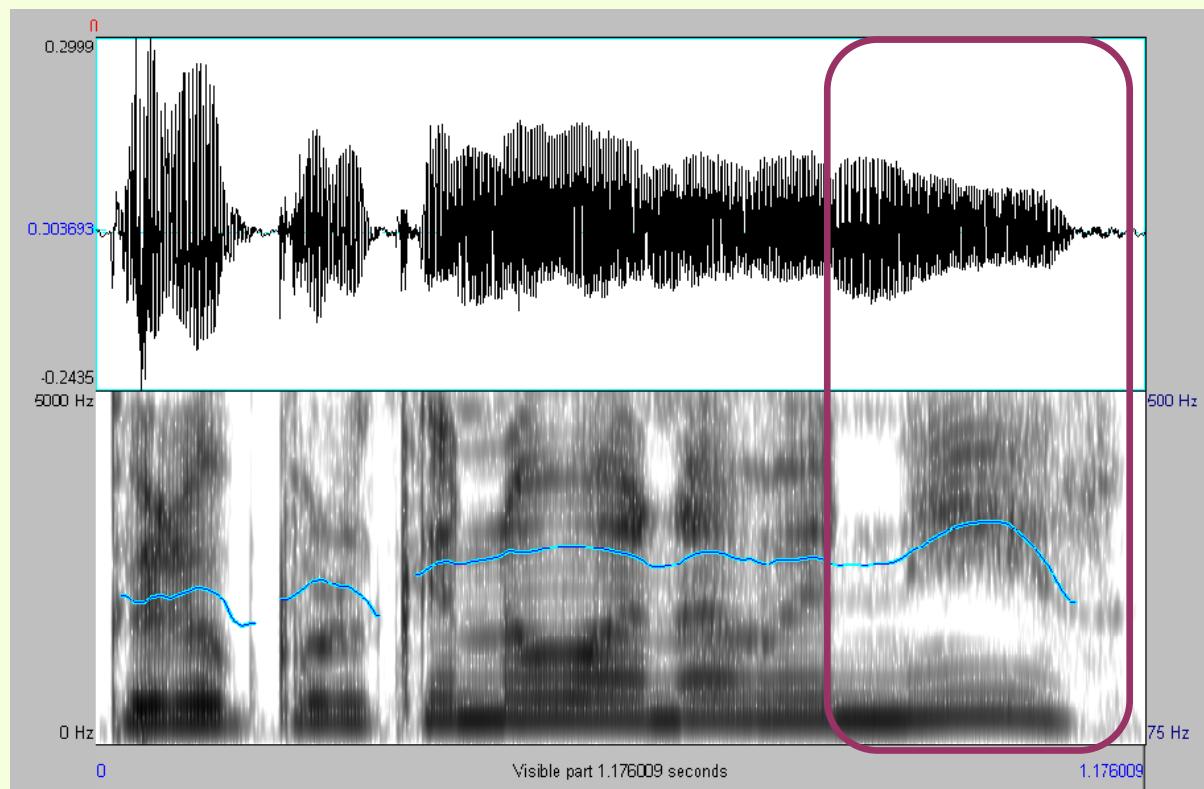


3. L+H* M%

Exhortative Wh question



- *¿Pero por qué no van a venir? (K, 732)*

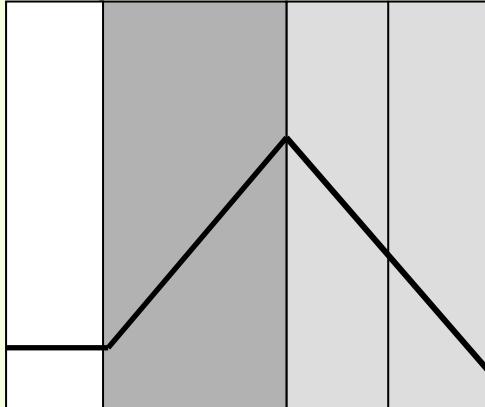
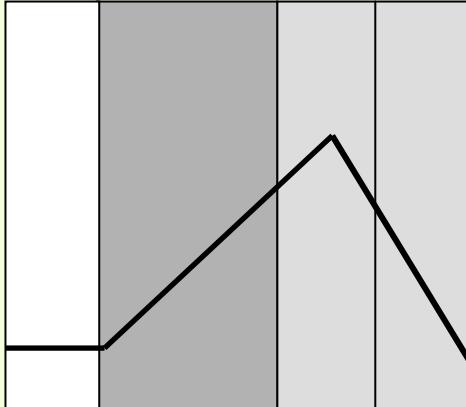




Utterance types

- Declaratives
- Interrogatives
- **Imperatives**
- Vocatives

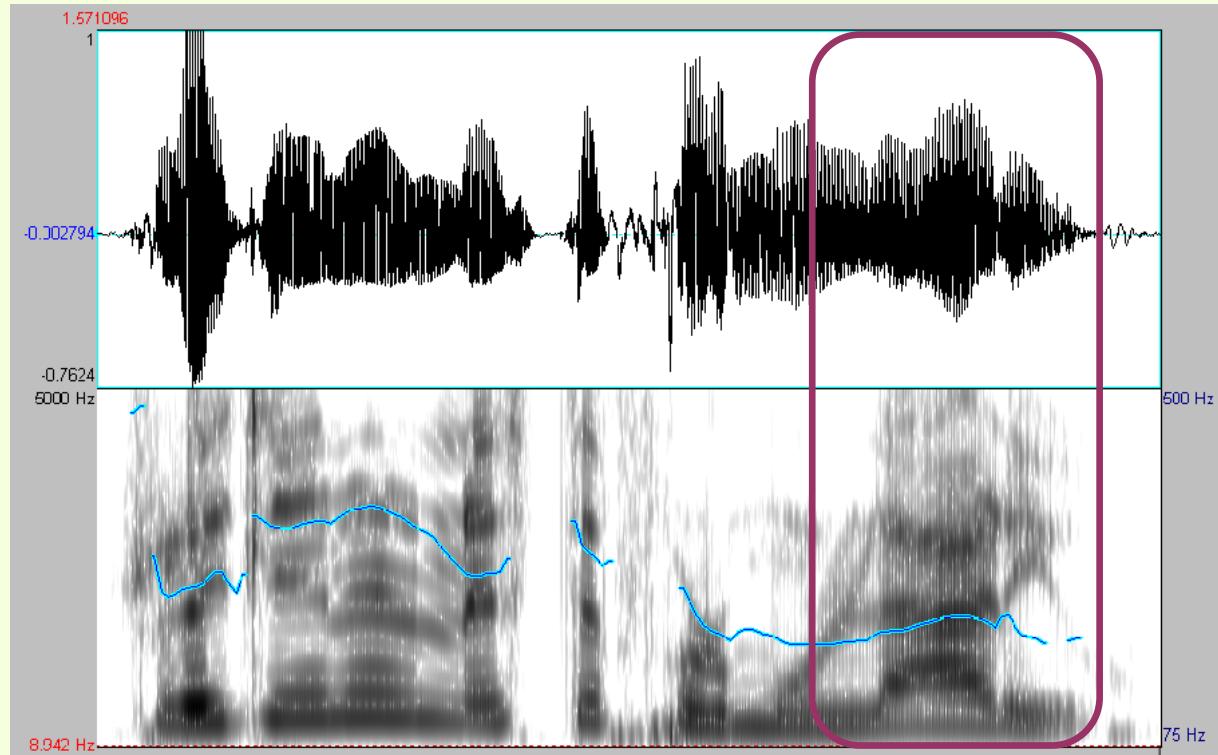
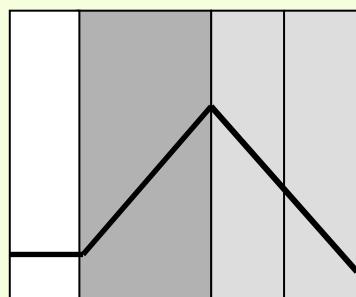
Imperatives: circumflexes

commands	requests
$L+H^* \ L\%$  A diagram showing four vertical bars representing syllables. The first bar is white, and the second is shaded gray. A black line starts at the bottom of the first bar, rises to the top of the second bar, stays flat for the third bar, and then descends to the bottom of the fourth bar.	$L+H^* \ HL\%$  A diagram showing four vertical bars representing syllables. The first bar is white, and the second is shaded gray. A black line starts at the bottom of the first bar, rises to the top of the second bar, falls to the middle of the third bar, and then descends to the bottom of the fourth bar.

Is there a phonological contrast?

L+H* L% Command

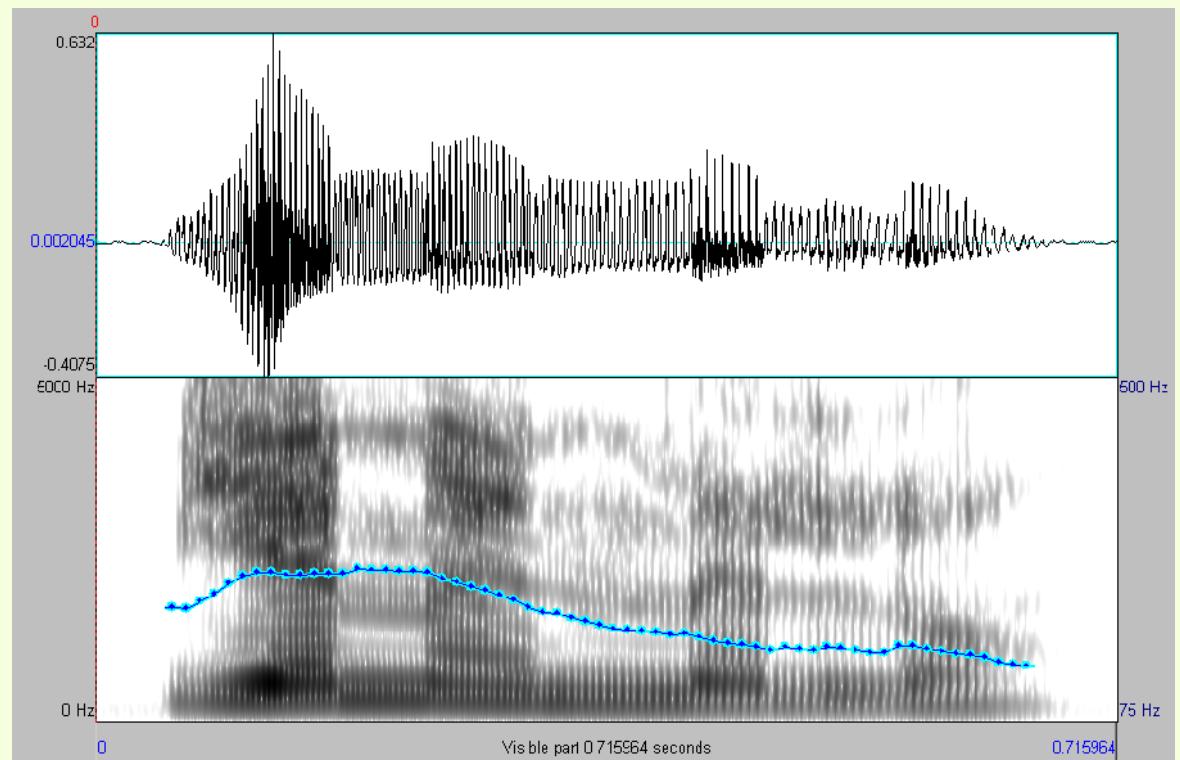
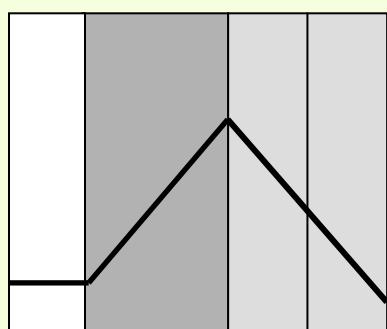
- Rellenen este *formulario* (I, 812)



L+H* L% Strong command

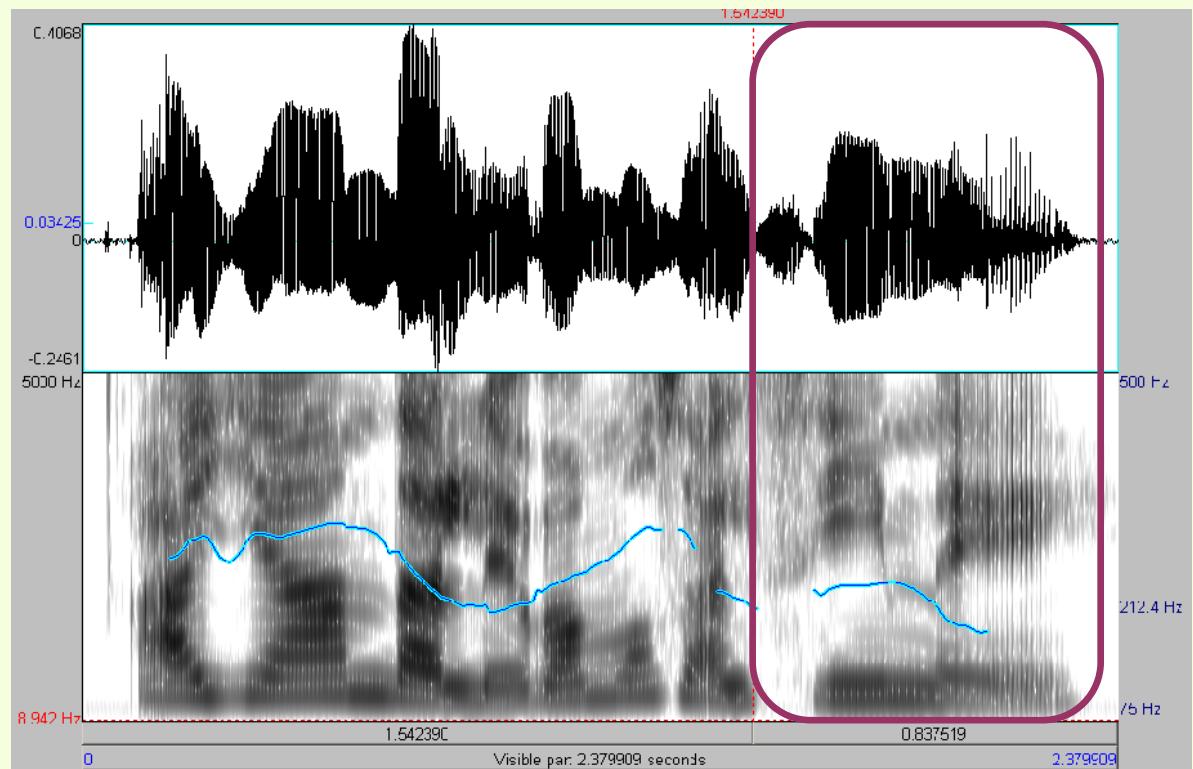


□ *Llénenmelo* (M, 629)



L+H* HL% Request

jAy, ándale! jVamos al cine! (M, 636)

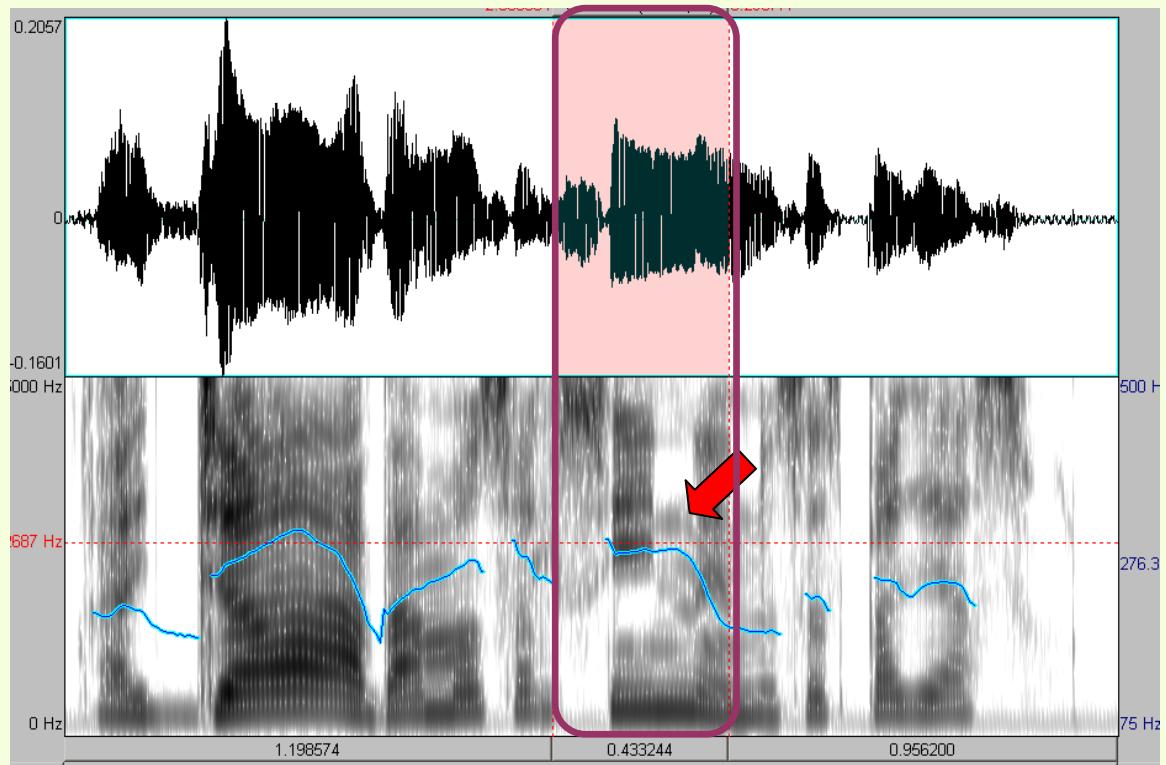
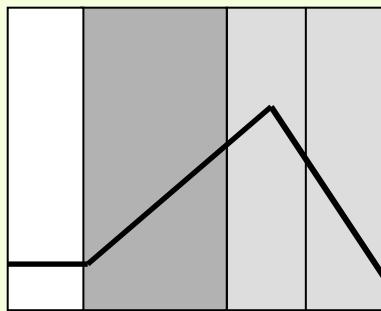


L+H* HL-



Insistent request

- *iAy, ya! Vamos al cine, no seas payaso (K, 758)*

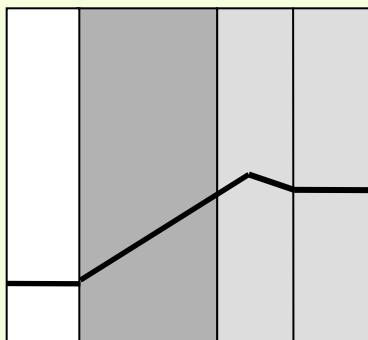


Utterance types

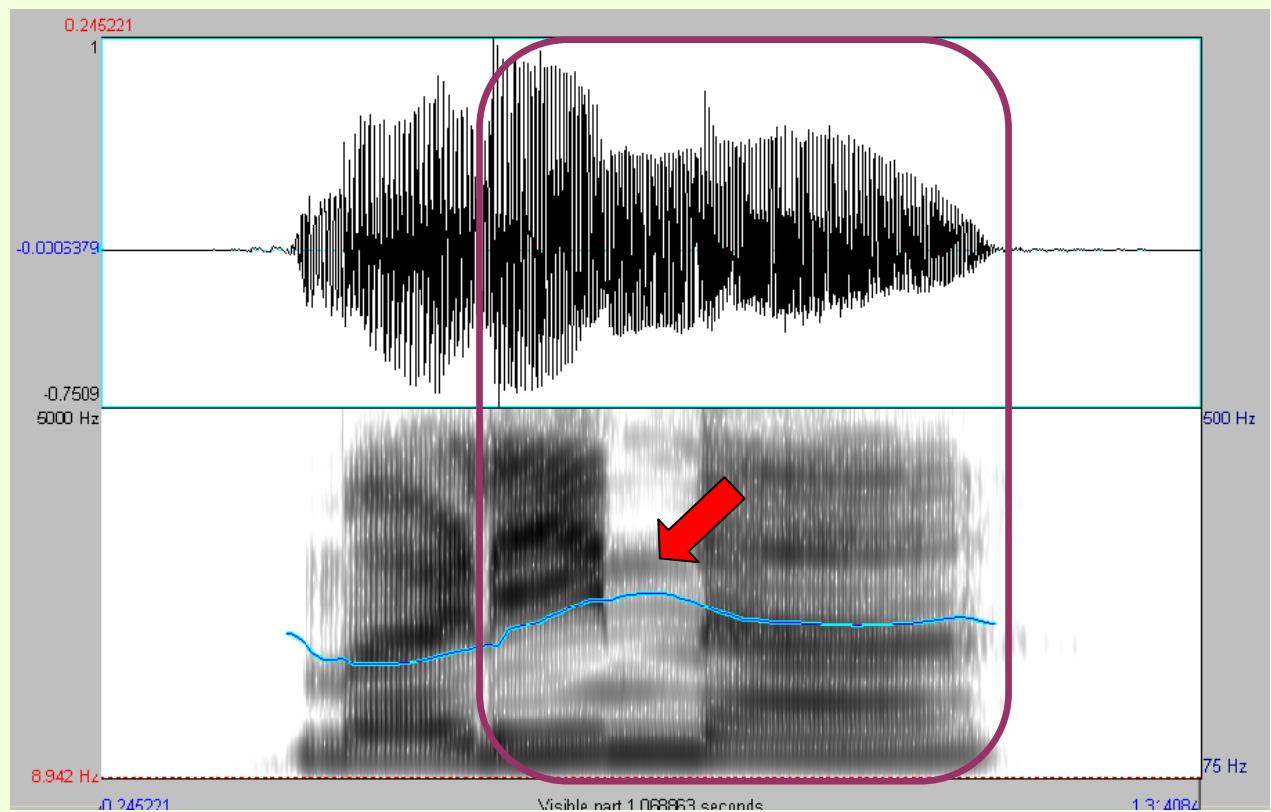
- Declaratives
- Interrogatives
- Imperatives
- **Vocatives**

L+H* M% Vocative

Chilean Sp. (Astruc, Ortiz, Fuentes, this Workshop),
Peninsular Sp. (TM, 2009), similar to **Andean** Sp. (O'Rourke, this Workshop)



□ *jMarina!* (K, 761)  



Demanding attention: softly

L+H* HM%

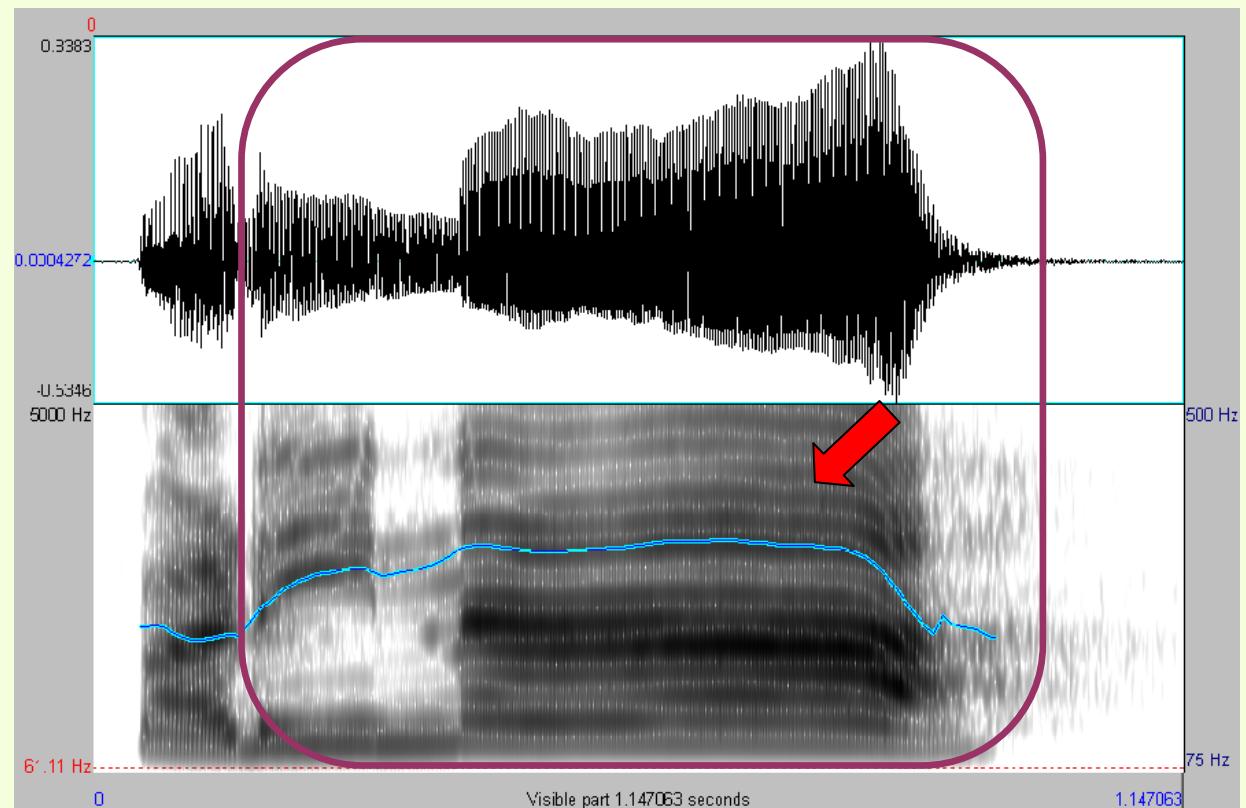
Vocative



**Similar to Puerto Rican Sp.
(Armstrong, this Workshop)**



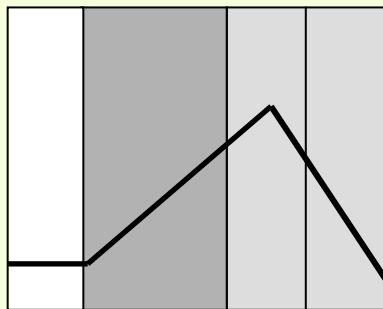
□ *iMarina!* (I, 165)



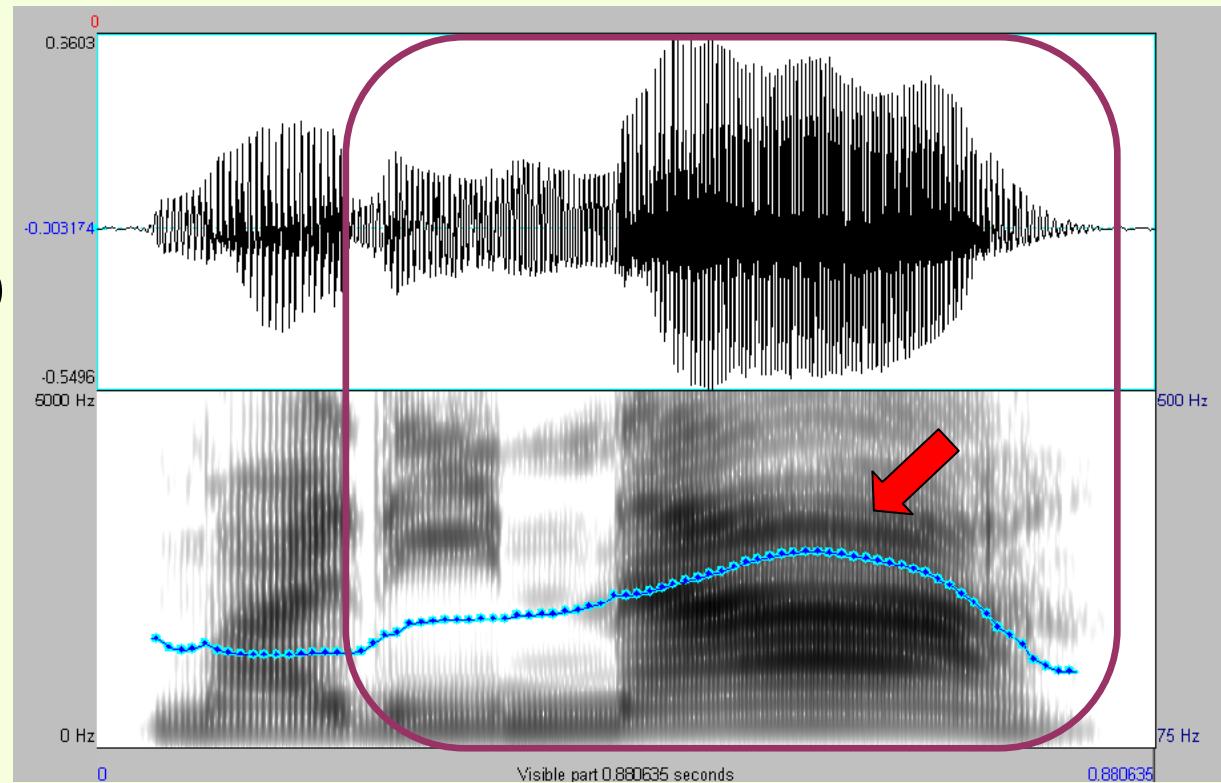
Calling

L+H* HL% Vocative

Peninsular Sp.
 (Estebas-Prieto,
 2008), **Puerto**
Rican Sp.
 (Armstrong,
 Workshop 2009)



iMarina! (M, 641)



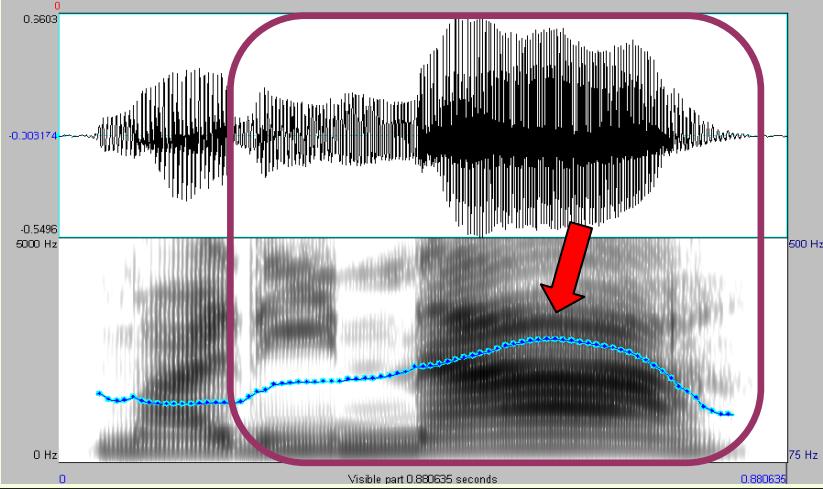
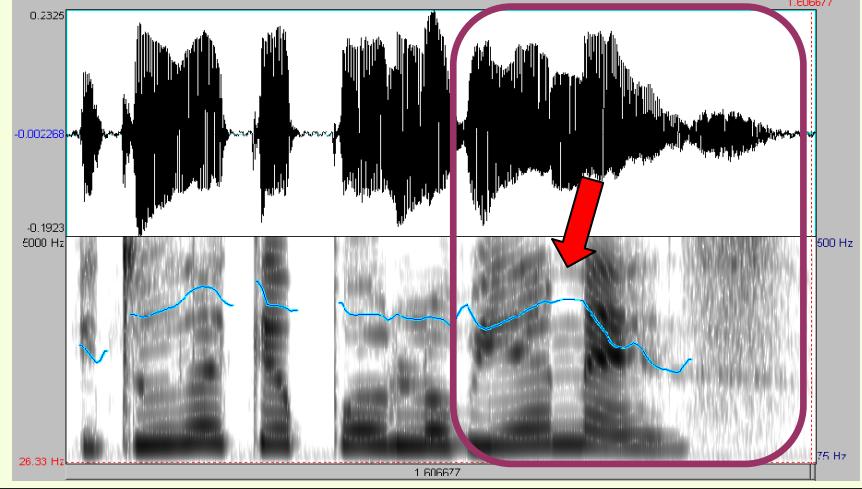
Demanding attention and calling: request

Vocative *vs.* Wh question and requests

circumflexes



H alignment (at HL%)

Vocatives	Wh questions and Requests
postonic syllable onset: rising Peak: nucleus	postonic syllable onset: peak Peak: onset
<i>jMarina!</i> (M, 641)    <p>A spectrogram and F0 contour plot for the vocative 'jMarina!'. The spectrogram shows vertical bands of energy. A blue line at the bottom represents the fundamental frequency (F0), which starts low and rises towards the end of the vowel. A red arrow points to the peak of this rising F0 contour. The x-axis is labeled 'Visible part 0.880635 seconds' and '0.880636'. The y-axis has values 0, -0.003174, and -0.5496, with a 6000 Hz scale bar.</p>	<i>¿Y tú de qué pueblo vienes?</i> (I, 797)    <p>A spectrogram and F0 contour plot for the wh-question '¿Y tú de qué pueblo vienes?'. The spectrogram shows vertical bands. A blue line at the bottom represents the F0, which remains relatively flat until the final consonant cluster, where it drops sharply. A red arrow points to this sharp drop. The x-axis is labeled '26.33 Hz' and '1.816877'. The y-axis has values 0.2325, -0.002268, and -0.1923, with a 6000 Hz scale bar.</p>

Conclusions

- In Mexican Spanish, the following '**circumflex**' nuclear configurations are used in **statements and wh-questions**: **L+H* L%**, **L+H* HL%** and **L+H* M%**.
- Even though the **circumflex** configurations exist in other varieties, they have a **more restricted pragmatic scope**.
- In Mexican Spanish, **information-seeking questions** are produced as **L* LH%**, with a long and higher rise, and **inviting questions** as **L* HH%** --same contrast as in Peninsular Spanish, namely **L* HH%** vs. **L+H* HH%**.

Conclusions

- The contrast between a command and a request is expressed through a different pitch configuration: **L+H* L%** (**command**) and **L+H* HL%** (**request**) and also through **durational** cues.
- A potential contrast was found in the **height** of **boundary tones** in **vocatives**.
- The contrasts found can be **handled** with the **standard Sp_ToBI labeling conventions**, and specifically through the use of **M%**, **bitonal boundary tone** combinations, etc.

Summary: Mexican Spanish Nuclear configurations



Mex_Sp_ToBI	Contour	Type/meaning
L*L		Declarative End of disjunctive questions
L* HL%		Categorical statement
L* HH%		Invitation y/n question
L* LH%		Neutral-polite y/n question Anti-expectative, incredulity question

Summary: Mexican Spanish Nuclear configurations



Mex_Sp_ToBI	Contour	Type/meaning
L+H* L%		Narrow focus statement Declarative Exclamative Wh- question Imperative Wh- question Command
L+H* M%		Obviousness statement Exhortative Wh- question
L+H* HL%		Wh- question Vocative Request
L+H* HM%		Vocative

Acknowledgments

- Thanks to the **speakers**, Karla Yazmin Camacho Riquenes, Itzel Moreno Vite and Mercedes Orestano Sánchez, and specially to Itzel Moreno, for her help with the interviews and the meanings.
- We are grateful to **Pedro Martín Butragueño** and **Eduardo Velázquez** for their comments on contours, labels and pragmatic meanings on a previous version of this work.
- This research has been achieved with the **financial support** of the Spanish Ministerio de Ciencia e Innovación to four projects: the Glissando project FFI2008-04982-C003-02, HUM2006-01758/FILO "Estructura prosódica y adquisición de la prosodia en catalán y español", HUM2005-6980FILO "Estudio perceptivo de la variación inter e intralocutor en español" and CONSOLIDER-INGENIO 2010 "Bilingüismo y Neurociencia Cognitiva CSD2007-00012".



THANK YOU!

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