Asking questions across European and Brazilian Portuguese varieties: information-seeking and counterexpectational yes-no questions

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➢ **Recent research on yes-no question intonation in European and Brazilian Portuguese suggests that there is a high variety of nuclear patterns of yes-no questions not only between European and Brazilian varieties but also across European Portuguese varieties** (Frota et al. 2015, Silva & Frota 2014, Cruz et al. 2014, among others).

➢ **However, there is a lack of studies that include a detailed description and comparison of yes-no questions in different varieties of Portuguese, mostly comparing European and Brazilian varieties.**

➢ **Considering the fact that interrogatives can have different pragmatic functions, we analyzed yes-no questions also from a pragmatic point of view, thus looking at neutral and focused yes-no questions (also called counterexpectational, presumptive, antiexpectative, etc), those that convey incredulity or surprise.**

➢ **Studies have shown that speakers can signal the difference between neutral and focused questions intonationally, in various languages, such as European Portuguese, Bari Italian, Buenos Aires Spanish, Brazilian Portuguese or Catalan** (Frota 2002, 2014, Savino & Grice 2007, Lee et al. 2008, Truckenbrodt 2009, Crespo-Sendra 2011).

➢ **Some studies have found a gradient contrast between the two types of questions** (cf. Hirschberg & Ward 1992 for American English, or Crespo-Sendra 2011 for Catalan, among others)**, while other studies indicate that the contrast is expressed categorically** (cf. Savino & Grice 2007, 2008 for Bari Italian)**.**

G.1: to describe the intonation of yes-no questions in European and Brazilian Portuguese (EP and BP, respectively) by analyzing a wide range of utterances and regions covered within the project *Interactive Atlas of the Prosody of Portuguese* (InAPoP – Frota, 2012-2015)*.*

G.2: to investigate the strategies that EP and BP speakers use to distinguish between information-seeking and counterexpectational yes-no questions.

Reading task

➢ The materials were elicited by the presentation of written sentences preceded by contexts (i.e. a *reading task*).

Pre-existing *corpora,* used in the *InAPoP* project (Frota 2002).

➢ For the analysis:

10 neutral and *9 focused* yes-no questions with different stress position in the nuclear word (final, penult and antepenult stress).

Ex: Ela foi ver o **mar**? *Did she go to see the sea?*
          Ela foi ver a Ma**ri**na? *Did she go to visit Marina?*
      Os rapazes compraram **lâ**minas? *Did the boys buy slides?*

• All sentences were read twice by **three** female native **speakers** from 9 urban regions in ***Portugal*** (540 neutral and 486 focused yes-no questions) and from 8 urban regions in ***Brazil*** (480 neutral and 432 focused yes-no questions).

➢ Annotated with the ***ToBI labelling*** system for Portuguese, P-ToBI (Frota 2002, 2014).

➢ Data collected by means of a Discourse Completion Task (DCT – Billmyer & Varghese 2000; Félix-Brasdefer 2010) were also analyzed to confirm our analysis of the reading task, whenever necessary.
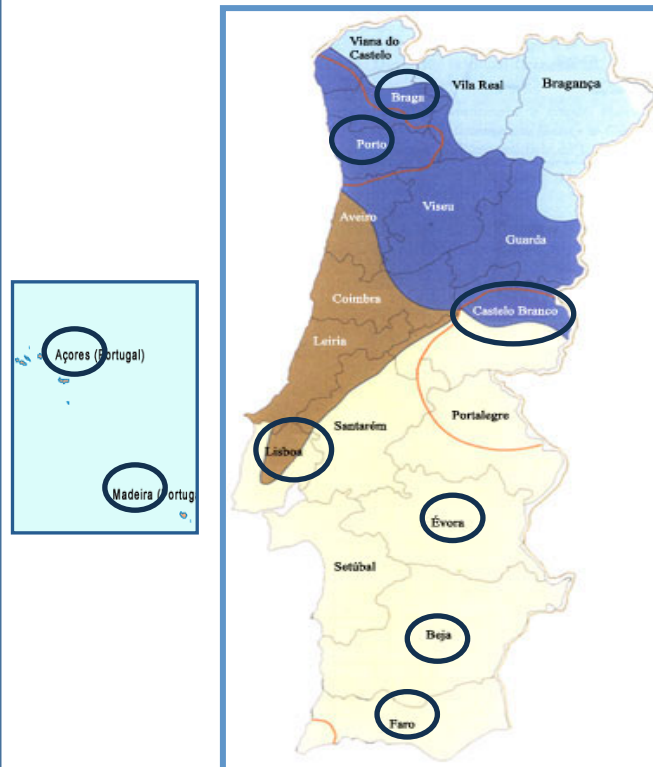
Regions

- ➢ **EP: 7 continental regions - Braga, Oporto, Castelo Branco, Lisbon, Évora, Beja, Faro, and 2 in the islands of Madeira and Azores**
- ➢ **BP: Paraíba, Sergipe, Bahia, in the North; Minas Gerais, São Paulo, Rio de Janeiro, Santa Catarina and Rio Grande do Sul in the Centre-South**

Adapted from Cintra 1971 by Segura & Saramago 2001.

cf. Nascentes 1953.

Information-seeking yes-no questions

European Portuguese (EP)

➢ **Results for neutral yes-no questions divide EP in four groups:**

1. **Lisbon is characterized by a low tone preceded by a high pretonic syllable (H+L*), associated to the last stressed syllable and followed by a complex boundary tone (LH%)**

Lisbon
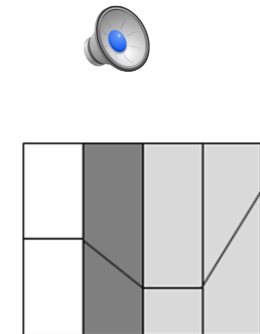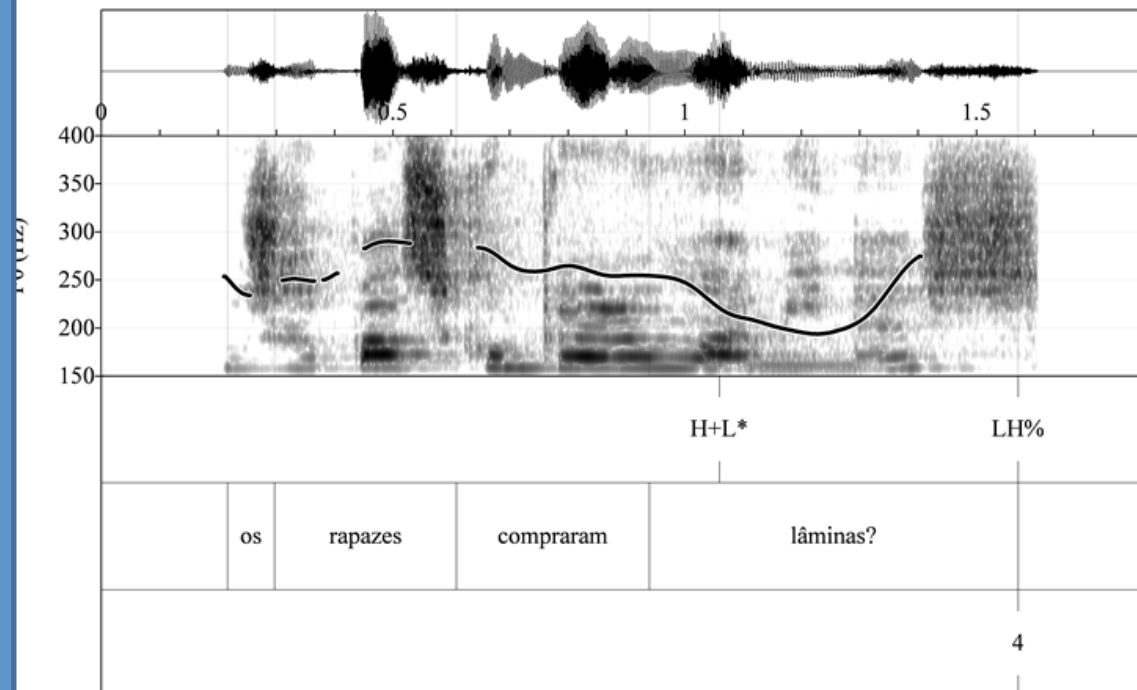
H+L* LH%

2. Braga, Oporto, Beja and Faro produce this type of questions with a low tone immediately followed by a rise ((H+)L* H% and L*+H H%)

Beja
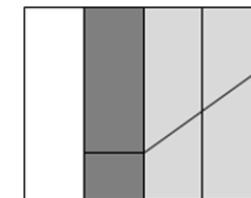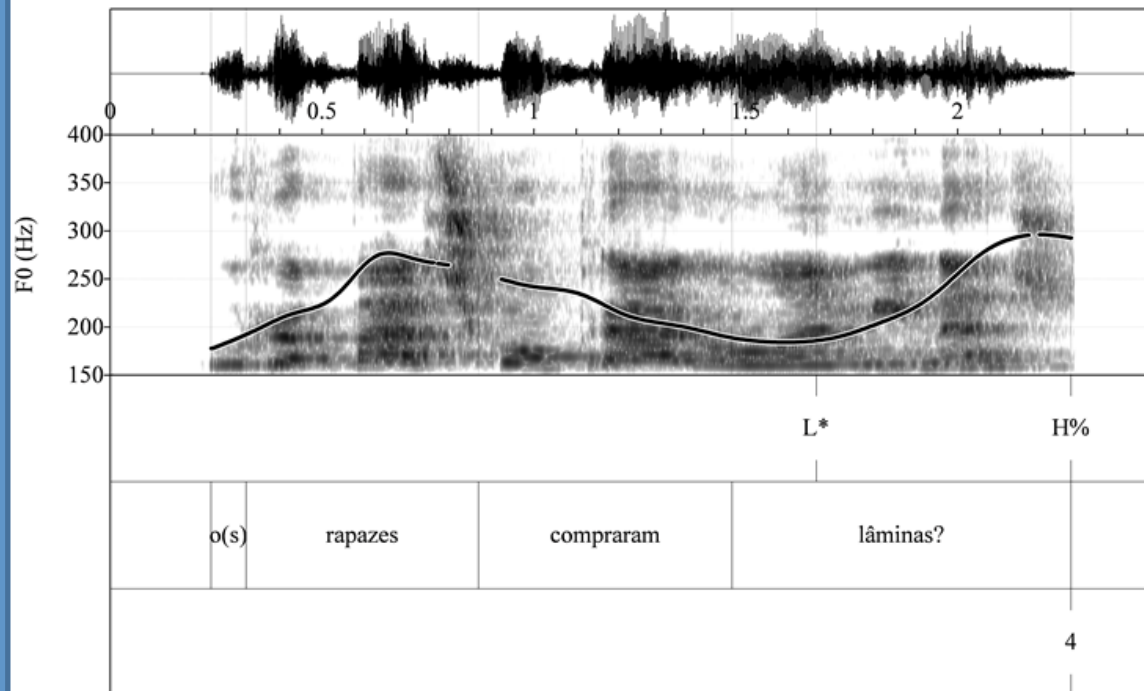
L*(+H) H%

3. Castelo Branco presents a low tone on the accented syllable followed by a rise on the posttonic syllable (L*+H) and a low boundary (L%)

Castelo Branco
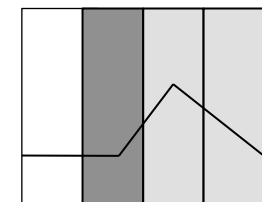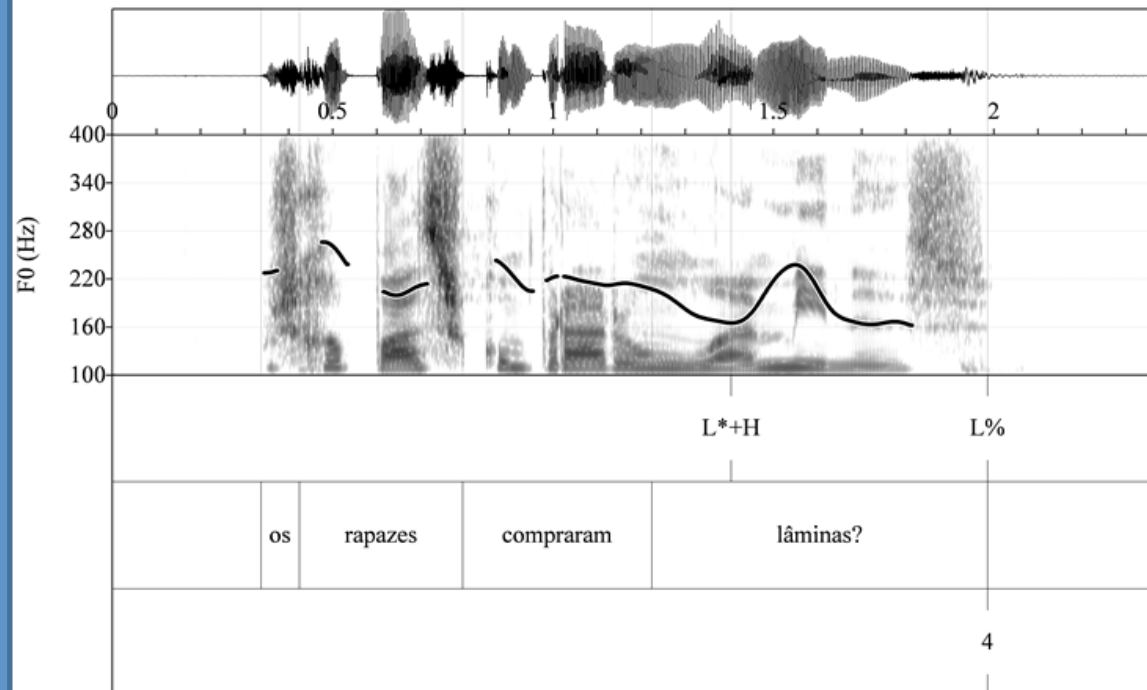
L*+H L%

4. **Évora and the islands show an all-falling nuclear configuration, i.e., a low tone that can be preceded by a high pretonic syllable ((H+)L*), followed by a low boundary (L%)**

Azores
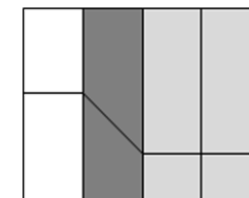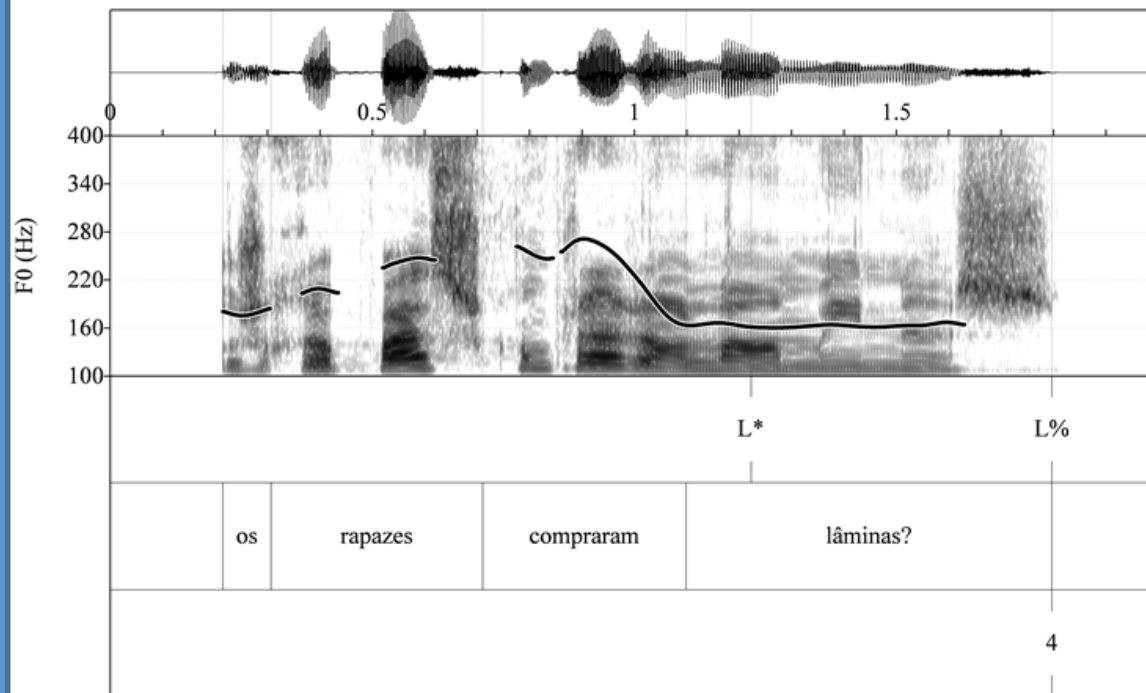
F0 (Hz)

os | rapazes | compraram | lâminas?
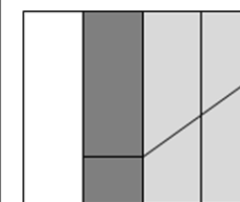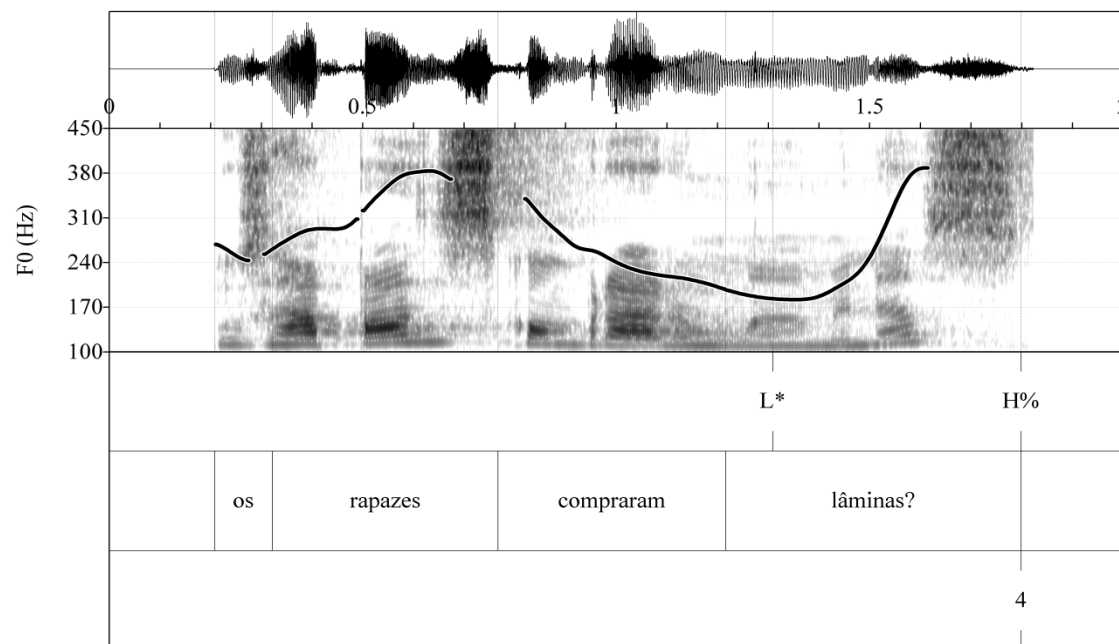
L*   L%

(H+)L* L%

Information-seeking yes-no questions

Brazilian Portuguese (BP)

➤ **Results for neutral yes-no questions show that Brazilian varieties can be divided into two different groups:**

1. **the 3 regions of the North (Paraíba, Sergipe, Bahia) are characterized by a rising pattern (L* H% and L*+H H%);**

Sergipe

L*(+H) H%

2. the 5 regions of the Center-South (Minas Gerais, São Paulo, Rio de Janeiro, Santa Catarina, Rio Grande do Sul) present questions with the same basic melody (LHL).
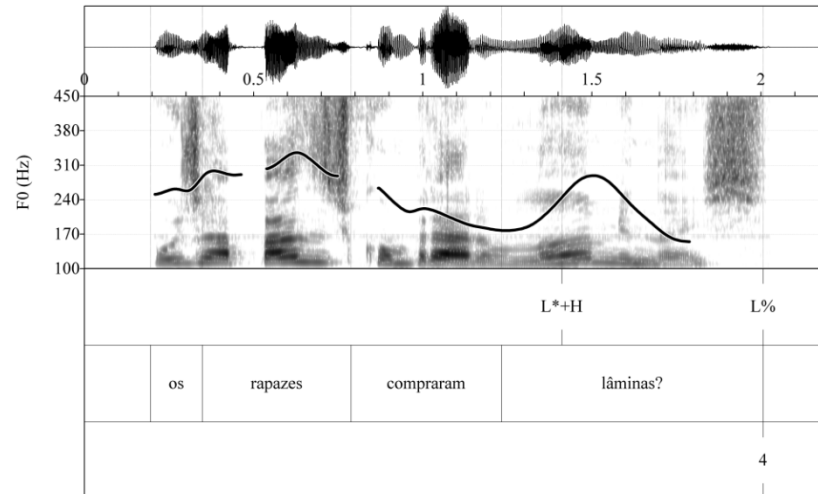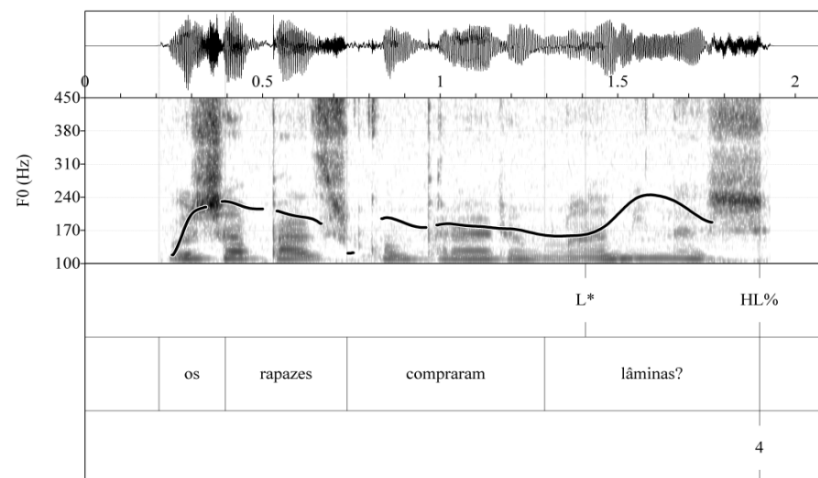
Rio de Janeiro

LHL%

Santa Catarina

✓ *However, the H can be associated to the pitch accent or to the boundary tone depending on the region.*
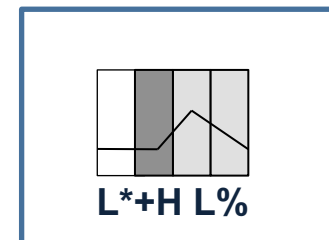
Counterexpectational yes-no questions

European Portuguese (EP)

➢ **EP speakers change the nuclear configuration in almost all the four groups, by using a different pitch accent and/or boundary tone (Faro and Azores are the exception, that use the same phonological contour).**

1. **Castelo Branco**
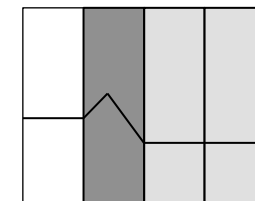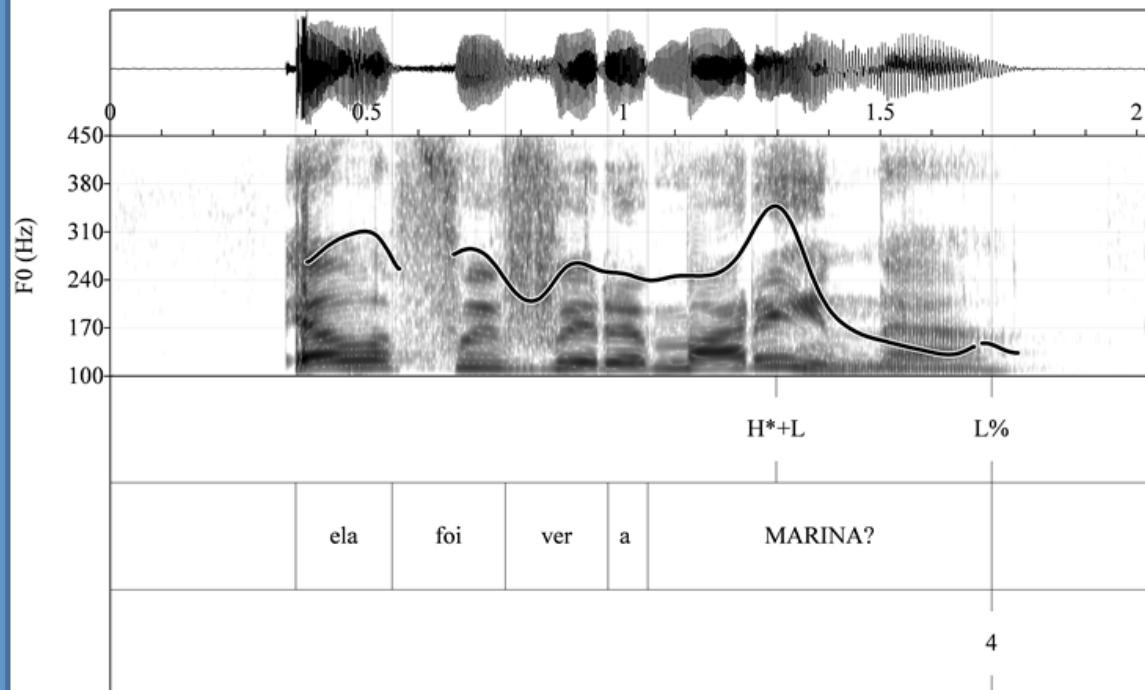
H*+L L%

L*+H L%

2. Braga, **Oporto**, **Lisbon**, **Évora**, Beja, **Madeira**

Oporto

Évora

L*+H (H)L%

L*(+H) H%   **(H+)L* L%**

H+L* LH%
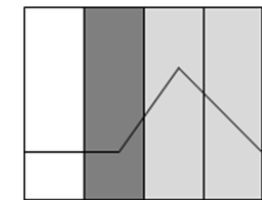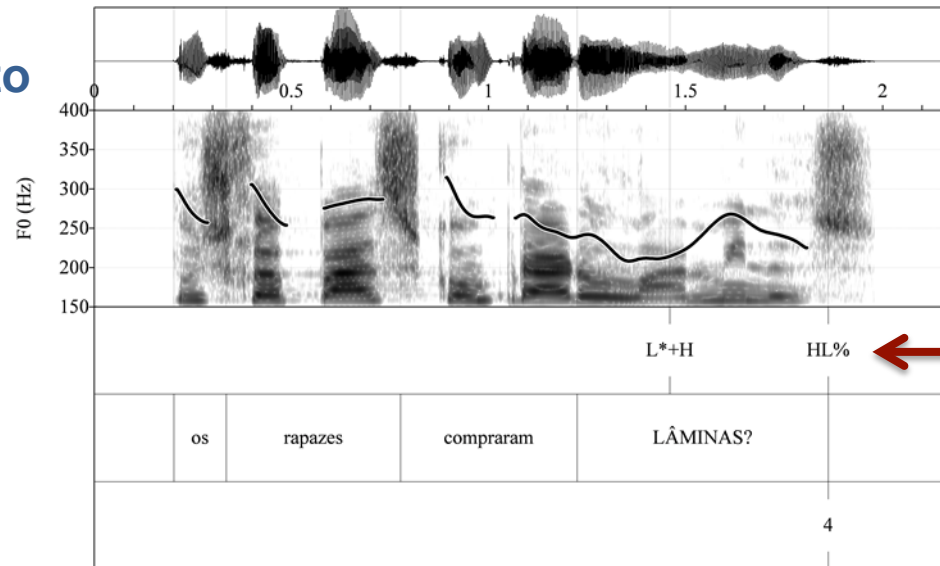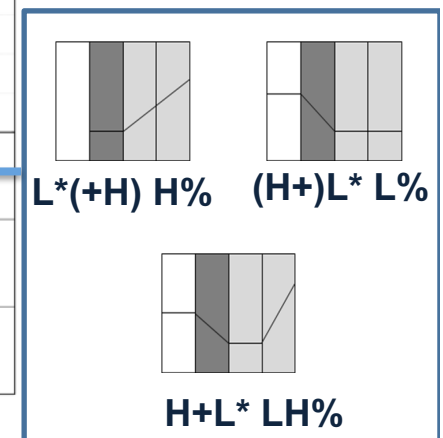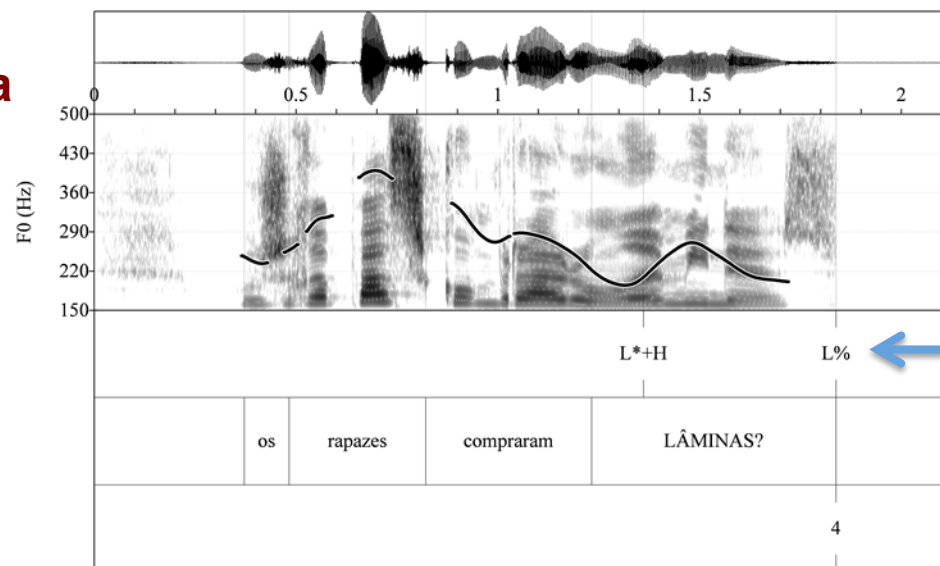
Counterexpectational yes-no questions

Brazilian Portuguese (BP)

➤ By contrast, in BP focused questions are produced with the same neutral pattern with phonetic differences in both pragmatic meanings.

1. **Paraíba, Sergipe, Bahia**

Sergipe
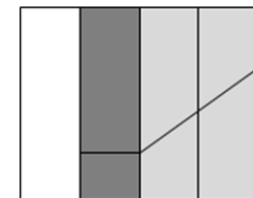
L*(+H) H%

2. **Minas Gerais, São Paulo, Rio de Janeiro, Santa Catarina, Rio Grande do Sul.**

Rio de Janeiro
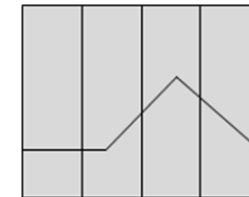
LHL%
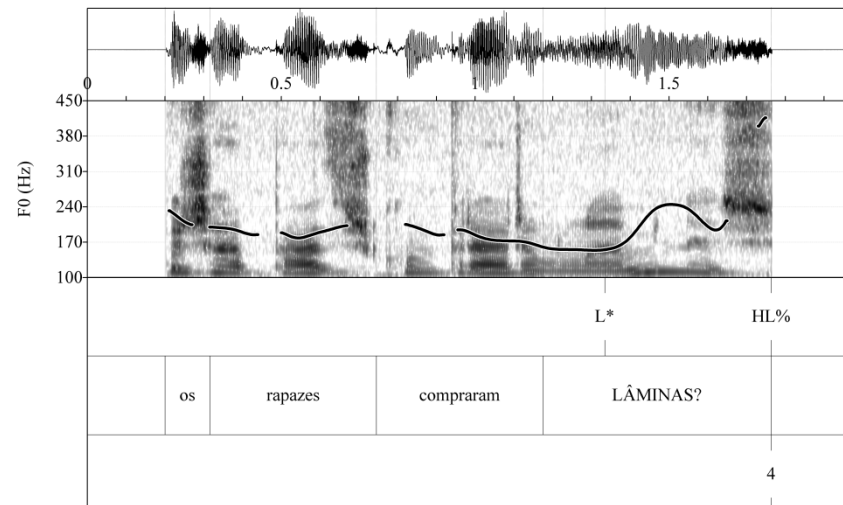
Santa Catarina

Information-seeking vs. Counterexpectational yes-no questions

What is different in BP for both pragmatic meanings?
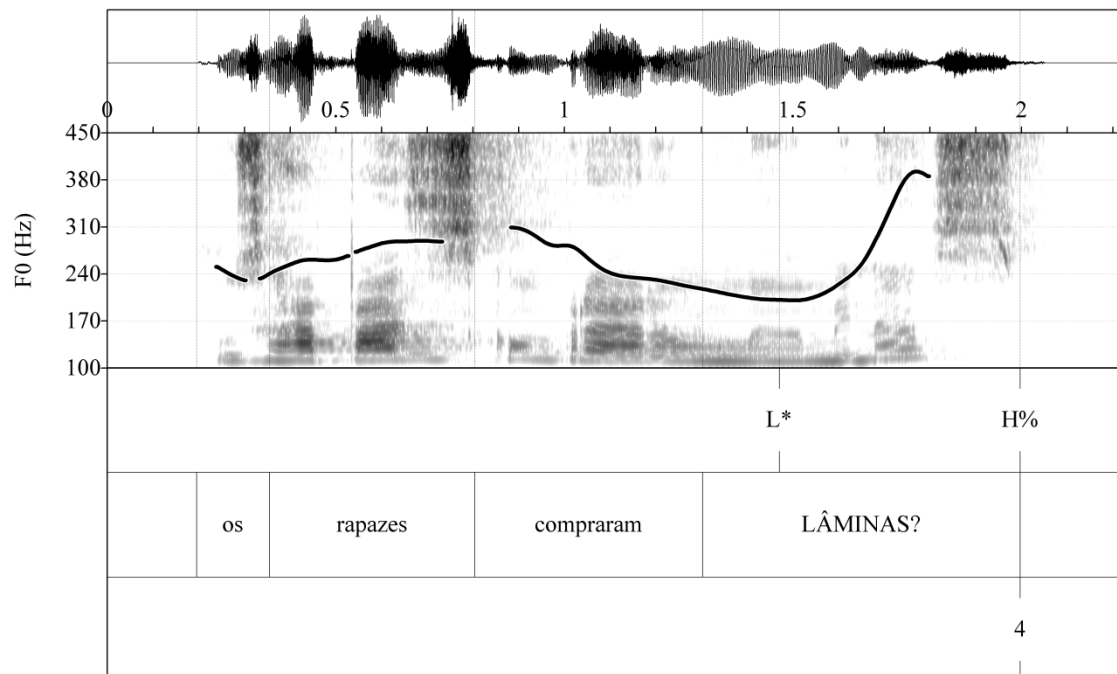
✓ **Duration**: the difference between neutral and focused yes-no questions is marked by the duration of the low on the nuclear pitch accent relative to the stressed syllable.

Duration of L
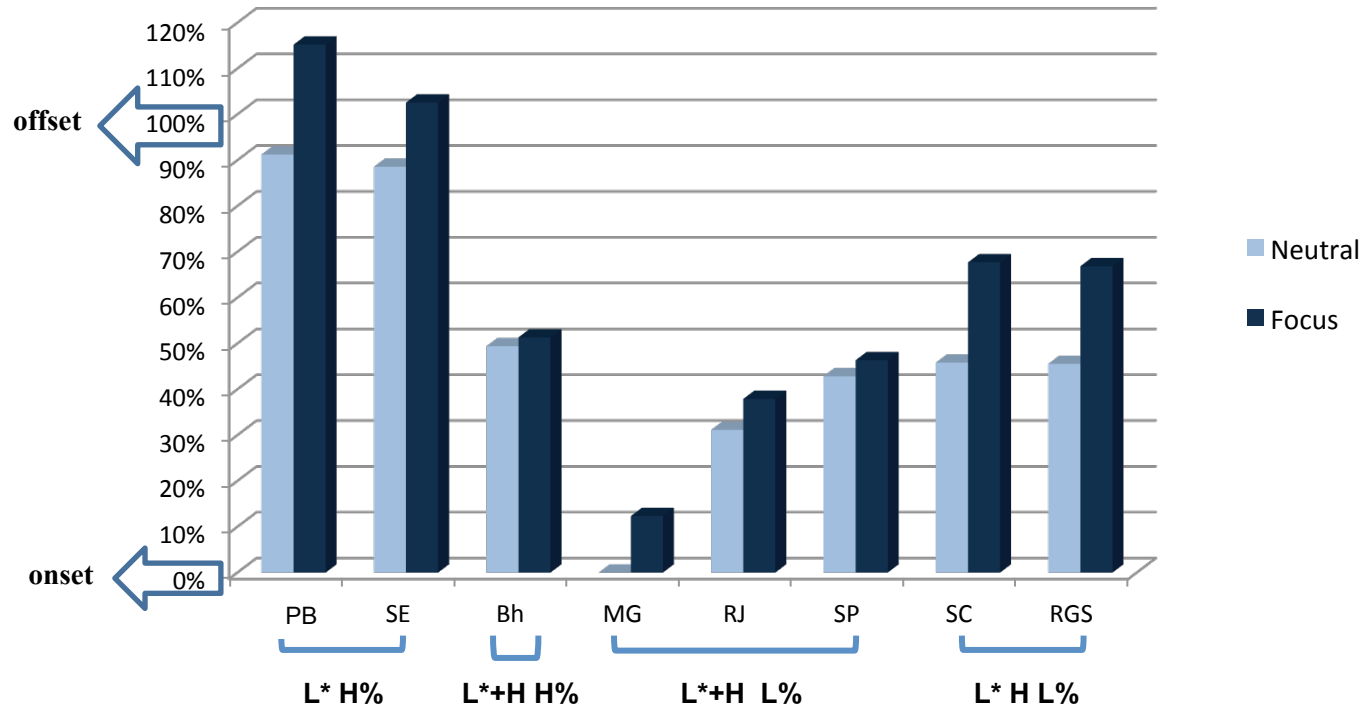
✓ **Alignment**
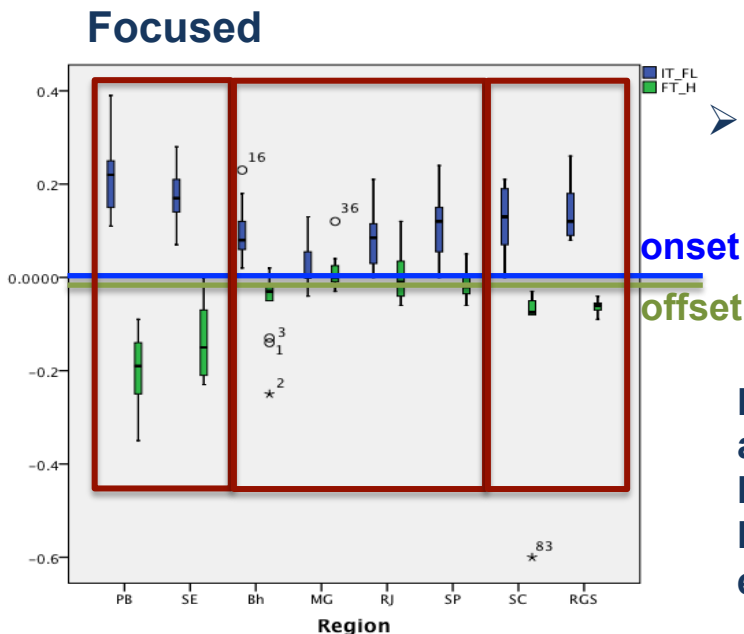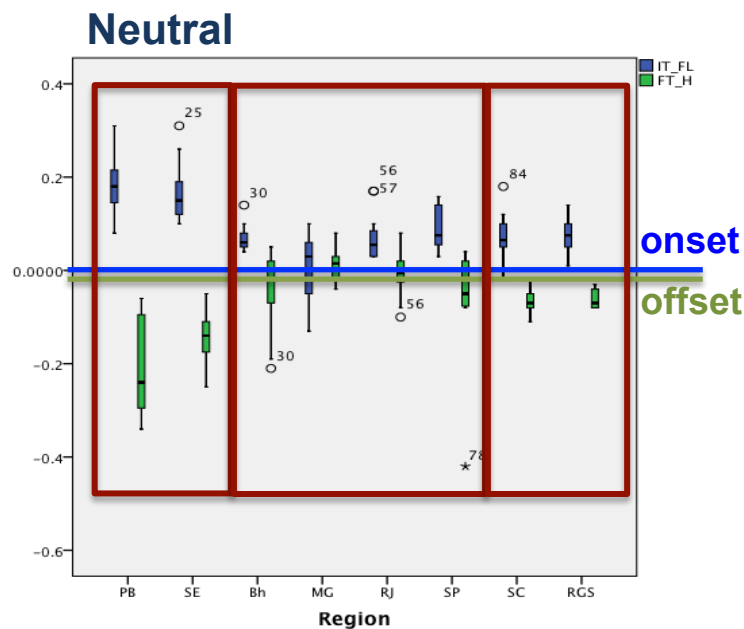
Neutral

Focused

➢ These graphs show the **alignment differences** across BP varieties, thus confirming our labeling:

 - **H** clearly belongs to the **boundary** in Paraíba and Sergipe (L* H%), in neutral and focused yes-no questions;

- **H** belongs to the **pitch accent** in Bahia (L*+H H%) and central varieties (L*+H L%), in neutral and focused yes-no questions;

 - in the South, the alignment of **H** is **ambiguous** (L* H L%), mainly in focused yes-no questions.

➢ The **distance** between L and H seems to be maximized in focused yes-no questions.

Dialectal differences of alignment and association of the rising-falling contour have been discussed also for other languages as Italian and German (Grice et al. 2005; Atterer & Ladd, 2004).

*What is different in **Faro** and **Azores** for both pragmatic meanings?*

1. Faro
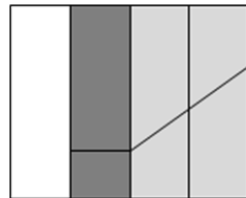
L*+H H%

2. Azores
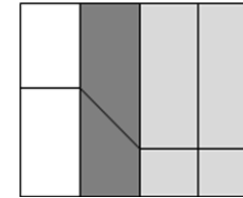
(H+)L* L%

✓ **Duration**: the **difference** between information-seeking and counterexpectational yes-no questions is **not marked by the duration** of the low on the nuclear pitch accent relative to the stressed syllable (🧩 BP).

Duration of L
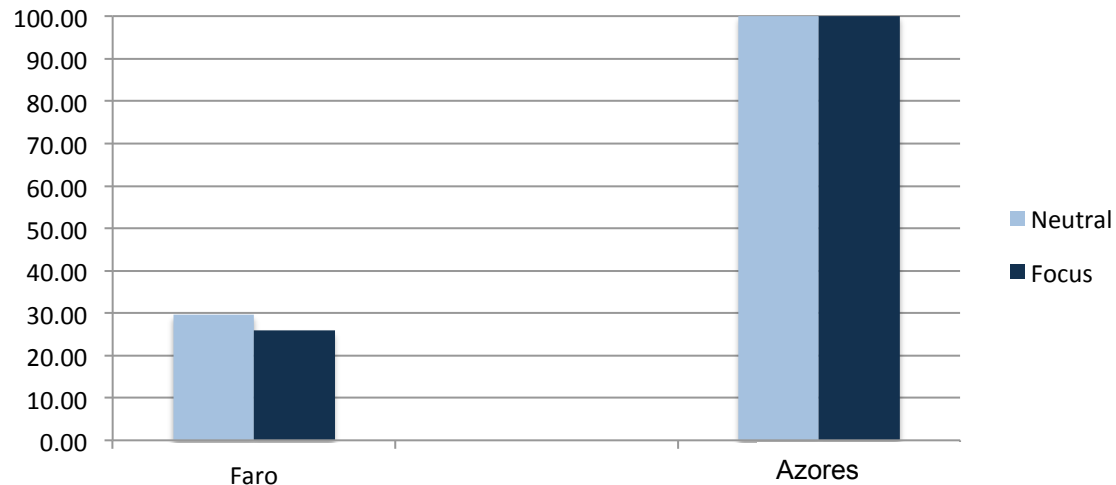
✓ **Alignment:** only observed for **Faro** (in Azores, the stressed syllable is completely low in both pragmatic meanings.

The **difference** between information-seeking and counterexpectational yes-no questions is **not marked by the alignment** of the low on the nuclear pitch accent relative to the onset of the syllable. However, alignment of L is more stable in counterexpectational than in information-seeking yes-no questions.

onset
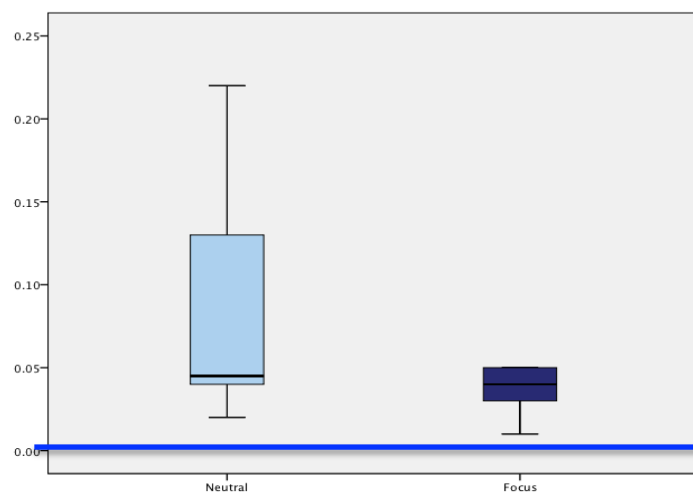
Small difference in the height of the L tone (**≈10Hz**)

Notable difference in the height of the L tone

✓ **Pitch Height**

Pitch height (Hz)	Faro		Azores	
	L	**H**	**L**	**H**
Information-seeking	**197.33**	276.00	**185.20**	317.24
Counterexpectational	**185.38**	274.10	**133.35**	319.15
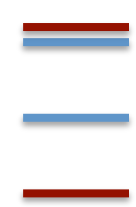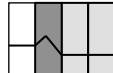
➢ **We have investigated the phonological realization of neutral and focused yes-no questions and the contrast between both pragmatic meanings by analyzing a wide range of utterances and regions of European and Brazilian Portuguese.**

➢ **Results for neutral yes-no questions divide EP and BP in these groups:**

EP
1. Lisbon (H+L* LH%)
2. Castelo Branco (L*+H L%)
3. Braga, Oporto, Beja and Faro (H+)L* H% -L*+H H%)
4. Évora and the islands (H+)L* L%)

BP
1. Northern regions (L* (+H) H%)
2. Central and Southern regions (LHL)

➢ **Results for focused yes-no questions divide EP in these groups:**

EP
1. Castelo Branco (H*+L L%)
2. Lisbon, Braga, Évora, Madeira Porto, Beja (L*+H (H)L%)

❖ **Faro and Azores (EP) and BP use the same phonological contour in conveying focus.**

TO SUM UP...

EUROPEAN PORTUGUESE

Region	Neutral	Focus
Braga	(H+)L* H%	L*+H L%
Oporto	L*+H H%	L*+H HL%
Lisbon	H+L* LH%	L*+H HL%
Castelo B.	L*+H L%	H*+L L%
Beja	L* H%	L*+H HL%
Évora	H+L* L%	L*+H L%
Faro	L*+H H%	L*+H H%
Madeira	(H+)L* L%	L*+H L%
Azores	L* L%	L* L%

BRAZILIAN PORTUGUESE

Region	Neutral	Focus
Paraíba	L* H%	L* H%
Sergipe	L* H%	L* H%
Bahia	L*+H H%	L*+H H%
Minas G.	L*+H L%	L*+H L%
S. P.	L*+H L%	L*+H L%
R. J.	L*+H L%	L*+H L%
S. C.	L* H L%	L* H L%
R. G. S.	L* H L%	L* H L%

➢ **In conclusion, there is an asymmetry between European and Brazilian Portuguese varieties in determining both pragmatic meanings.**

    ➢ European Portuguese, in general, changes the nuclear configuration to convey focus in almost all the four groups, by using a different pitch accent and/or boundary tone (except in Faro and Azores).

PHONOLOGICAL CONTRAST

    ➢ By contrast, Brazilian Portuguese produces focused yes-no questions with the same neutral pattern with phonetic differences (duration and alignment) in both pragmatic meanings.

PHONETIC CONTRAST

➢ **Moreover, the results of the present study show that two varieties of the same language express focused yes-no questions in different ways – categorical (EP) and gradual (BP) – thus confirming the existence of both strategies within the same language.**

➢ **Interestingly, truncation globally applies in BP varieties of group (2), whereas in EP varieties tune-text accommodation strategies are more common by means of vowel epenthesis, vowel split or vowel lengthening, confirming previous analyses (cf. Frota et al. 2015 for a review).**

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