

Focus and Intonational Marking in Boundaries Dialects: Brazilian Portuguese and Uruguayan Spanish in yes/no questions

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Abstract

This paper describes the distinct tonal configurations of absolute questions in Brazilian Portuguese and in Uruguayan Spanish. Two sub varieties of Brazilian Portuguese (BP) and two sub varieties of Uruguayan Spanish (US) are considered. In doing so, this experimental study argues for the existence of prosodic variation between melodic contours of yes/no questions, comparing the realisations from Rio de Janeiro (RJ) and Santana do Livramento (SL), on the Brazilian side, and those from Rivera (R) e Montevideo (M), on the Uruguayan side.

Keywords: intonation, meaning, absolute questions, tonal configuration, Iberian languages.

1. Introduction

This paper considers two main factors: *Tonal Configuration* in absolute questions, concerning diatopic variation in prosody, and *Meaning*, concerning contrastive focus in BP and US. In our work, we oppose the main urban area, Rio de Janeiro (RJ) and Montevideo (M), to Santana do Livramento (SL), on the Brazilian side and Rivera, (R) on the Uruguayan side, which represent the urban area in both national boundaries and have long tradition of language contact.

Based on the configuration variability of absolute question, as well as on a penultimate stressed pattern (s-S-s), we compare: a) the pre-nuclear (i.e. non-final) pitch accent and range duration in stressed (S) and unstressed (s) syllables, b) the nuclear (i.e. final) pitch accent and range duration in (S) and (s) syllables.

We recorded the same utterance with three target meanings, attempting focus variation: *Neutral* (or without focus); *Focus 1* (or pre-nuclear contrastive focus) and *Focus 2* (or nuclear contrastive focus).

The main goal is to contrast in absolute questions, the prosodic marks which characterize diatopic variation attempting tonal configuration and duration range.

2. Method

As part of a larger study, we recorded *in loco* four female native speakers from each city, in other words eight native speakers of BP and eight native speakers of US. Subjects would listen to a context sentence then they would respond with an absolute question requiring or not focus on one of the words in the answer: *Does Francisco live in Europe?* The utterance was read in three target sentences, each containing two stressed content words, and each was placed in three contexts forcing productions: a) without focus, b) with contrastive focus in the pre-nuclear word (Francisco) and c) with contrastive focus in the nuclear word (Europe). Each subject read and produced each utterance three times, resulting

in a total of 144 absolute interrogatives (4 subjects x 4 cities x 3 focus positions x 3 productions of each).

2.1. The subjects

The sixteen female native speakers were born in the respective place where they were recorded, they were between 18 and 30 years old and had never lived anywhere else. We chose only four of them in order to display here our purpose of Metrical Auto-segmentation notation.

2.2. The utterances

The utterances *Francisco mora na Europa?* (BP) and *¿Francisco vive en Europa?* (US) present the same syllable structure, with the same penultimate stressed syllable in the pre-nuclear (Francisco) and in the nuclear (Europa) word. This is the syllable structure most frequent in both languages (s-S-s).

The native speakers read sentences and they produced absolute interrogatives, after listening to the three different context sentences:

- Focus 0 or Neutral, without focus: *How can you ask someone if Francisco lives in Europe?*
- Focus 1 or Pre-nuclear contrastive focus: *Someone tells you that **Francisco** lives in Europe, but you disagree because you are sure that who lives in Europe is **Pedro**, his brother.*
- Focus 2 or Nuclear contrastive focus: *A friend of yours tells you that Francisco lives in **Europe**, but you disagree because you know he lives in the **United States**.*

The tonal configuration and the duration range are realized upon the principles of the intonational phonology, as Sosa [8, 9], Face [2] noted about many varieties of Spanish and Moraes [6, 7] about BP.

2.3. Tonal configuration and temporal range

The data were digitized in Praat, created by Boersma and Weenink [1]. The manual segmentation in Praat was submitted to the Prosogram, specially designed by Mertens [5]. First, this program selects in a segmentation the voiced portion of these units, that has sufficient intensity/loudness. In this voice portion it stylizes the F0 of the selected intervals, plots stylized pitch using a musical (semitone) scale and adds calibration lines at every 2 ST for easy interpretation of pitch intervals.

The duration range, increasing or decreasing of syllable, was measured in the stressed syllable vowel (penultimate in our sample), but also in the adjacent unstressed syllable vowels (antepenultimate and final). We have considered in our work the stressed (S), pre-stressed (s-) and post-stressed (-s) syllable duration, comparing the S to s- and -s to S.

3. Tonal Configuration in Absolute Questions

As Face [2], within the Auto-segmental Metrical theory of intonational phonology, the pitch accent accounts for the rise in F0, with the L(ow tone) accounting for the F0 valley and the H(igh tone) accounting for the F0 peak. The * suffixed to the L or H indicates auto-segmental association of this tone to the stressed syllable. The \downarrow suffixed to L or H indicates a downstep from the previous tone. The % suffixed to L or H indicates the final tone, it is the edge of the accentual phrase.

3.1. Uruguayan Spanish: Montevideo

The questions without focus were produced by the four Uruguayan female informants from Montevideo with a falling contour.

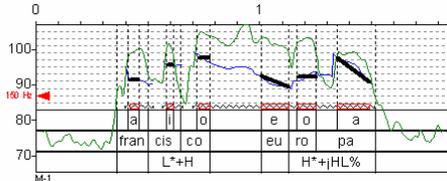


Figure 1: Tonal configuration in absolute question (Uruguayan Female Speaker).

The pre-nuclear has a rising pitch accent. The duration decreases in (S), with a low tone (L*). Its decreasing (47%), is followed by a increasing (69%) in the final syllable (s) with the high tone (H). The longest syllable is the final one. The respective values of duration in (s-S-s) were: 47-32-54 ms.

The nuclear has a falling pitch accent. The duration decreases in (S), with a high tone (H*). Its decreasing (42%), is followed by increasing (105%) in the final syllable (s) with the bitonal accent (\downarrow HL). The longest syllable is the final unstressed one. The respective values of duration in (s-S-s) were: 121-85-174 ms.

3.2. Uruguayan Spanish: Rivera

The questions without focus were produced by the four Uruguayan female informants from Rivera with a falling contour.

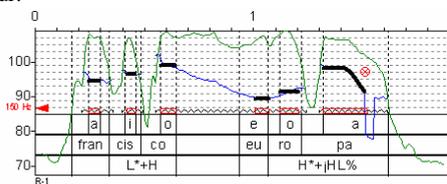


Figure 2: Tonal configuration in absolute question (Uruguayan Female Speaker).

The pre-nuclear has a rising pitch accent. The duration decreases in (S), with a low tone (L*). Its decreasing (4%), is followed by a increasing (41%) in the final syllable (s) with the high tone (H). The longest syllable is the final one. The respective values of duration in (s-S-s) were: 53-51-72 ms.

The nuclear has a falling pitch accent. The duration decreases in (S), with a high tone (H*). Its decreasing (32%), is followed by increasing (199%) in the final syllable (s) with the bitonal accent (\downarrow HL). The longest syllable is the final

unstressed one. The respective values of duration in (s-S-s) were: 133-101-302 ms.

3.3. Brazilian Portuguese: Santana do Livramento

The questions without focus were produced by the four Brazilian female informants from Santana do Livramento with a falling contour.

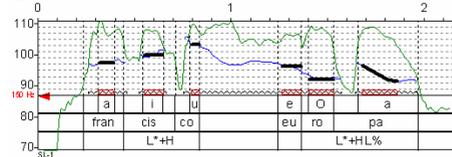


Figure 3: Tonal configuration in absolute question (Brazilian Female Speaker).

The pre-nuclear has a rising pitch accent. The duration increases in (S), with a low tone (L*). Its increasing (21%), is followed by a decreasing (55%) in the final syllable (s) with the high tone (H). The longest syllable is the stressed one. The respective values of duration in (s-S-s) were: 83-105-47 ms.

The nuclear has a falling pitch accent. The duration increases in (S), with a low tone (L*). Its increasing (7%), is followed by increasing (143%) in the final syllable (s) with the bitonal accent (HL). The longest syllable is the final unstressed one. The respective values of duration in (s-S-s) were: 120-129-313 ms.

3.4. Brazilian Portuguese: Rio de Janeiro

The questions without focus were produced by the four Brazilian female speakers from Rio de Janeiro with a falling parabolic contour.

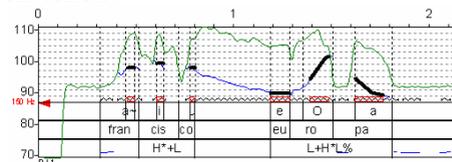


Figure 4: Tonal configuration in absolute question (Brazilian Female Speaker).

The pre-nuclear has a falling pitch accent. The duration decreases in (S), with a high tone (H*). Its decreasing (16%), is followed by a decreasing (29%) in the final syllable (s) with the low tone (L). The longest syllable is the antepenultimate unstressed one. The respective values of duration in (s-S-s) were: 44-38-27 ms.

The nuclear has a falling pitch accent. The duration increases in (S), with a high tone (H*). Its increasing (28%), is followed by increasing (23%) in the final syllable (s) with the pitch accent (L). The longest syllable is the final unstressed one. The respective values of duration in (s-S-s) were: 110-153-188 ms.

4. Pre-nuclear contrastive focus

When the word in focus is pre-nuclear, Francisco, the constrastive focus implementation affects the rising configuration, as shown in Face [2].

(M) - The pre-nuclear has a falling pitch accent (H*+L). The duration increases in (S). Its increasing (30%), is followed by a decreasing (28%) in the final syllable (s). The longest syllable is the final one. The respective values of duration in (s-S-s) were: 58-83-106 ms.

(R) - The pre-nuclear has a rising pitch accent (L*+H). The duration increases in (S). Its increasing (1%), is followed by a decreasing (23%) in the final syllable (s). The longest syllables are the antepenultimate (s) and the penultimate (S). The respective values of duration in (s-S-s) were: 90-91-70 ms.

(SL) - The pre-nuclear has a rising pitch accent (L*+H). The duration decreases in (S). Its decreasing (31%), is followed by a decreasing (42%) in the final syllable (s). The longest syllable is the antepenultimate (s). The respective values of duration in (s-S-s) were: 242-185-107 ms.

(RJ) - The pre-nuclear has a falling pitch accent (H*+L). The duration increases in (S). Its increasing (14%), is followed by a decreasing (64%) in the final syllable (s). The longest syllable is the stressed one (S). The respective values of duration in (s-S-s) were: 92-107-38 ms.

In terms of duration range, when comparing the main urban areas (RJ and M) with the boundary urban areas (SL and R), the importance of the increasing of the unstressed final syllable is noted in SL by Cunha [3] southern dialects of BP. On the other hand the importance of the duration of the stressed syllable increases in the US boundary dialect (R).

5. Nuclear contrastive focus

When the word in focus is nuclear, Europe, the contrastive focus implementation doesn't change the falling configuration in parabolic form in the four varieties, as purposes Moraes [6, 7], in BP.

(M) - The nuclear (H*+;HL%) has a falling pitch accent. The duration decreases in (S), noted with a high tone (H*). Its decreasing (55%), is followed by increasing (105%) in the final syllable (s) with the bitonal accent (jHL). The longest syllable is the final unstressed one. The respective values of duration in (s-S-s) were: 146-94-193 ms.

(R) - The nuclear (L*+HL%) has a falling pitch accent. The duration increases in (S), noted with a low tone (L*). Its decreasing (1%), is followed by increasing (55%) in the final syllable (s) with the bitonal accent (HL). The longest syllable is the final unstressed one. The respective values of duration in (s-S-s) were: 151-153-237 ms.

(SL) - The nuclear (L*+HL%) has a falling pitch accent. The duration increases in (S), noted with a low tone (L*). Its increasing (10%), is followed by increasing (110%) in the final syllable (s) with the bitonal accent (HL). The longest syllable is the final unstressed one. The respective values of duration in (s-S-s) were: 157-174-366 ms.

(RJ) - The nuclear (H*+HL%) has a falling pitch accent. The duration increases in (S), noted with a high tone (H*). Its increasing (9%), is followed by increasing (41%) in the final syllable (s) with the bitonal accent (HL). The longest syllable is the final unstressed one. The respective values of duration in (s-S-s) were: 165-181-256 ms.

Considering the duration, we have verified the pre-stressed syllable reduction to the stressed one in M, which enhances the post-stressed syllable final increasing. By contrast, in RJ we have verified an increasing of the pre-stressed syllable to the stressed one, which dims the post-stressed syllable

importance. These duration differences decrease in R and SL, the two boundary cities. The pre-stressed syllable equals the stressed one in R, which increases the stressed syllable in the the US dialect when compared to that spoken in M. In SL, the pre-stressed syllable equals the stressed one, which enhances the importance of the post-stressed syllable in the BP dialect when compared to RJ.

6. Conclusion

In the pre-nuclear we noted the rising tonal configurations in absolute questions without focus and the falling configurations in those with contrastive focus.

Table 1: Tonal Configuration in absolute questions: the Pre-nuclear word (FRANCISCO)

| City | Neutral | Focus 1 |
|---------|-------------|-------------|
| M (US) | Rise (L*+H) | Fall (H*+L) |
| R (US) | Rise (L*+H) | Rise (L*+H) |
| SL (BP) | Rise (L*+H) | Fall (H*+L) |
| RJ (BP) | Fall (H*+L) | Fall (H*+L) |

In Spanish and in BP boundary dialect the rising configuration is preferred as described by Sosa [8, 9] and Face [2]. However, in Rio de Janeiro , BP, the falling configuration is preferred, as described by Moraes [6, 7]. So, contrastive focus affects the tonal configuration except in BP boundary dialects, Santana do Livramento.

In the nuclear we noted the falling tonal configurations in absolute questions with or without contrastive focus.

Table 2: Tonal Configuration in absolute questions: the Nuclear word (EUROPA)

| City | Neutral | Focus 2 |
|---------|-----------------|-----------------|
| M (US) | Fall (H*+;jHL%) | Fall (H*+;jHL%) |
| R (US) | Fall (H*+;jHL%) | Fall (L*+;jHL%) |
| SL (BP) | Fall (L*+HL%) | Fall (L*+HL%) |
| RJ (BP) | Fall (L+H*L%) | Fall (H*+HL%) |

We observe bitonal falling pitch accents in all the varieties. The parabolic form, described by Moraes [6, 7] for BP is associated to different syllables (stressed and unstressed final), however it is associated to the same syllable (the unstressed final) in the other varieties. This weight on the final unstressed syllable is also observed in US. These two varieties (R and M) end with a rising configuration, as shown by Sosa [8] in Argentinean Spanish. Nonetheless, in US we observe a fall in the unstressed final syllable which results in a parabolic form, like in BP.

To perform the present study, we have chosen 4 informants, one for each dialect, to demonstrate qualitatively the differences. However, contrasting across single speakers with few readings in different dialects seems to be problematic. It would be so far desirable to test in further studies differences and changes for tonal patterns and duration range for significance.

7. References

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