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Sentential negation at the syntax-prosody interface

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ABSTRACT: Some authors (Selkirk, 1984; Féry and Ishihara, 2010) have argued that prosodic constituents exhibit a relation to syntactic constituents, which is observed in some constraints relating syntactic and prosodic structures. Taking into account that non-canonical sentential negation constructions in Brazilian Portuguese (BP) – [VP Neg₃] and [Neg VP Neg₂] – seem to exhibit some syntactic constraints if compared to standard negation [Neg₁ VP], this paper aims at investigating the interaction between syntax and prosody in these structures. To do so, I have compared two varieties of BP, from the Southeast and Northeast regions, which differ in that only in the latter one prosodic phrasing is used as a strategy to indicate different syntactic structures.

Keywords: Sentential negation; Brazilian Portuguese; Syntax-prosody interface

Introduction

Some prosodic constituents show a systematic relation to syntactic constituents, which is understood as syntax-prosody isomorphism. There seem to be some rules or constraints relating syntactic and prosodic structures, as Selkirk (1984) and others argue. However, according to Féry and Ishihara (2010), while syntax is mapped in prosody through prosodic

phrasing, focus and givenness affect *f0* register scaling. Since they do not directly affect the prosodic phrasing, syntax and information structure shape prosody in different ways.

Brazilian Portuguese (BP) exhibits at least three structures to express sentential negation: 1) [*Neg*₁ VP], (2) [*Neg* VP *Neg*₂] and (3) [VP *Neg*₃]. Only the structure (1) can occur in all contexts and are considered the default form or the canonical negation; the two others constructions are related to information structure. As per Teixeira de Sousa (2012), *Neg*₂ emphasizes the sentence's negative polarity, whereas *Neg*₃ functions to deny or to correct some given information. Considering the [VP *Neg*] structure as a structural way to express contrastive focus, I expect this structure to have a specific prosodic phrasing.

The aim of this study is to investigate the interaction between syntax and prosody in the realization of non-canonical sentence negation in Brazilian Portuguese (BP). I intend to show that final sentence negation in BP (*Neg*₃) shows properties of a contrastive element, whereas *Neg*₂ enforces the sentence polarity. Our analysis indicates that final sentence negation has a different derivation in the face of other kinds of sentential negation in the language.

The paper is organized as follows: In the first section, I will show some syntactic and semantic differences between *Neg*₂ and *Neg*₃. In the second section, I will discuss some theories on syntax-prosody interface. In the third section, I will present some results of an experimental study on non-canonical negation intonational pattern in two varieties of BP.

1. Sentential negation in Brazilian Portuguese

Brazilian Portuguese exhibits three structures to express sentential negation, as shown in (1). (1a) illustrates descriptive negation in the language. The other two negative structures have different interpretations: while *não*₂ in (1b) is a polarity focus, the clause-final *não* in (1c) stands for metalinguistic negation because it necessarily involves a strong presuppositional context.

- (1) a. *Isso não*₁ *vale a pena.*
this not worth the feather
'It's not worth it.'
- b. *Não*₁ *vale a pena não*₂.
not it.is.worth the feather not
'It's not worth it at all.'
- c. *Vale a pena.* *Vale a pena não*₃. *Vale a galinha inteira.*
It.is.worth the feather. It.is.worth the feather not. It.is worth the chicken whole
'It's worth it. It's just not worth it. It's definitively worth it.'

In (1a), we have a regular negative sentence. In (1b), the sentence polarity is highlighted by using the [Neg VP Neg] structure, which we understand to mean 'It's not worth it at all'. In contrast, the sentence in (1c) has a crucial difference in meaning: by using a [VP Neg] structure, the speaker can apply a scalar value to the sentence; one possible meaning is 'it's just not worth it. It's definitively worth it'. Thus, the second negative item in a [Neg VP Neg] structure, *não*₂, induces polarity emphasis, while the negative item in a [VP Neg] structure, which I call *external-não*, has a metalinguistic function.

Some syntactic differences between [Neg VP Neg] and [VP Neg] in the Northeast variety of BP are described by Biberauer & Cyrino (2009). According to them,

- *Não*₂ (second negative item in [Neg VP Neg]) can occur in both matrix and embedded clauses (2a), as opposed to *não*₃ ([VP Neg], which is limited to matrix clauses (2b):

- (2) a. *Ele disse que ele num/ não*₁ *comprou a casa não*₂
 he said that he not.CL/not bought the house NEG
 ‘He said that he hasn’t bought the house’
 b. **Ele disse que ele comprou a casa não*₃

- *Não*₂ is possible in simple yes/no interrogatives (3a), whereas *não*₃ is not (3b) – its presence is only permitted in questions entailing a presupposition (3c):

- (3) a. *Você num/ não*₁ *comprou a casa não*₂? [simple yes/no Q]
 you not.CL/not bought the house NEG
 ‘Haven’t you bought the house?’
 b. #*Você comprou a casa não*₃? [simple yes/no Q]
 c. *Você comprou a casa não*₃? [presuppositional yes/no Q]
 i.e. ‘You DIDN’T buy the house?! (I thought you had!’)

As Teixeira de Sousa (2011) observes, however, some syntactic restrictions to *não*₂ in embedded sentences, wh-questions and under factive verbs like “be sorry”:

- (4) a. *Enquanto minha filha não*₁ *chega em casa, eu não durmo.*
 while my daughter not arrive at home, I not sleep
 ‘Not while my daughter comes home, I do not sleep.’
 b. **Enquanto minha filha não*₁ *chega em casa não*₂, *eu não durmo.*
 while my daughter not arrive at home NEG, I not sleep

- (5) a. *O pinguim é uma ave que não*₁ *voa.*
 the penguin is a bird that not flies
 ‘Penguins are birds, which cannot fly’
 b. **O pinguim é uma ave que não*₁ *voa não*₂.
 the penguin is a bird that not fly NEG

- (6) a. *Por que o carro não funciona?*
 why the car not works
 ‘Why does the car not work?’
 b. **Por que o carro não funciona não?*
 why the car not works NEG

- (7) a. *Sinto que você não possa vir.*
 regret-1ps that you not can come
 ‘I’m sorry that you is not coming at all.’
 b. **Sinto que você não possa vir não.*

regret-1ps that you not can come NEG

*Não*₂ is related to *common ground* or belief. It is only possible if there is an epistemic value. For this reason it does not occur in sentences that express an event as a fact in the world, like sentences composed of factive verbs.

*Não*₂ is also not possible with disjunction, which indicates that this item scopes the entire sentence. This item actually emphasizes the sentence polarity.

- (8) a. O Pedro não conhece a Luísa e a Ana não₂.
the P. not know the L. And the A. NEG
'Pedro doesn't know Luisa nor Ana.'
- b. O Pedro não conhece a Luísa ou a Ana (*não₂). Eu só não sei qual.
the P. not know the L. or the A. NEG. I only not know which
'P. doesn't know L., or A. I just don't know which of them he doesn't know.'

In addition to syntactic differences, there are also pragmatic differences between [Neg VP Neg] and [VP Neg]. Schwenter (2005) tries to situate [Neg VP Neg] within the framework of denial-types – proposition, presupposition, (scalar) implicature and form (pronunciation, lexical choice, etc), and concludes that this structure is strongly restricted to proposition denials in which an interpretation of the negative constructions as descriptive negation is intended. According to Schwenter, the speakers only choose [Neg VP Neg] when they want to ensure that their interlocutors draw the correct inferences about the proposition denial in question.

- (9) A: O João já deixou de fumar?
'J. has stopped smoking.'
- B: Ele não deixou de fumar (#não), ele nunca fumou.
'He hasn't stopped smoking, he never smoked.'
- B': Ele não deixou de fumar (não), ele ainda fuma.
'He hasn't stopped smoking, he still smokes.'
- (10) a. Eu não gosto do meu professor (#não), eu adoro ele!
'I don't like my professor, I adore him!'
- b. Eu não gosto do meu professor (não), eu odeio ele!
'I don't like my professor, I hate him!'
- (11) A: Ele [trúsi] feijão pra festa.
'He brought ["incorrect" pronunciation] beans to the party.'
- B: Ele não "trouxe" [trúsi] feijão (#não), ele "trouxe" [trówsí] feijão.
'He didn't [trúsi] beans, he [trówsí] beans.'
- B: Ele não trouxe feijão (não), trouxe arroz.
'He didn't bring beans, he brought rice.'

Schwenter's data (9-11) show that [Neg VP Neg] cannot be used to deny presuppositions, implicatures or form. On the other hand, [VP Neg] is possible in all these contexts:

- (12) A: O João já deixou de fumar?

B: deixou não, ele nunca começou.
'He hasn't stopped, he never started'

(13) Eu gosto do meu professor. Gosto não. Adoro!
'I like my professor. Actually, I don't just like him. I adore him!'

(14) A: Ele [trúsi] feijão pra festa.
B: [trúsi] não, trouxe.
'He didn't [trúsi] beans, he [trówsí] beans.'

As (12-14) show, [VP Neg] can be used as metalinguistic negation; but there are some restrictions. [VP Neg] requires a question or expression in the immediately preceding context and a few items occurring before the negative item *não*₃.

Other evidence of [VP Neg] as metalinguistic negation comes from Horn (2001), who notes that metalinguistic negation is not able to trigger NPIs (Negative Polarity Items); on the contrary, it does not block the presence of PPIs (Positive Polarity Items). These facts are also true to [VP Neg] structures in BP:

(15) A: O João é rico!
'J. is rich!'
B: O que? ele num/ não₁ tem um tostão furado!
what he not.CL/ not has a cent with-a-hole
B': *O que? ele tem um tostão furado não!
what he has a cent with-a-hole no
'What?? He doesn't have a red cent!'

Example (16) - Biberauer & Cyrino 2009.

(16) A: Você fala pra burro!
'You speak way too much!'
B: #Eu não falo pra burro!
I not speak to donkey
'I do not speak way too much!'
B': Falo pra burro *não*!
Speak-3ps to donkey no
'I don't speak way too much!'

Despite the negative polarity item *tostão furado* in (15B') falling within the scope of negation, the sentence is ungrammatical, which would be unexpected if the final clause *não* [VP Neg] were a negative marker. In the same way, in (16B'), this item behaves differently than a negative marker since it allows the positive polarity item *pra burro* in its scope. The distribution of [Neg VP] and [VP Neg] in these examples indicates that the final clause *não* behaves as a discursive marker, rather than negative marker.

According to Horn (2001, p. 363), metalinguistic negation is a "device for objecting to an utterance on any grounds whatever, including the conventional and conversational implicature it potentially induces, its morphology, its style or register, or its phonetic realization". [VP Neg] structures in BP are always used to deny or to correct some information.

- (17) [Talking about a dog]
 A: Morreu de quê? (p. 55)
 died of what
 ‘How did it die?’
 B: num sei não, ah’ morreu *não* (...) ele deve ter ficado por aí’ pelo meio da rua’
 not-cl know neg, ah it died no. it may have stayed around middle of-the street
 ‘I don’t know, ah’ it didn’t die. It may be around, on the streets’
- (18) (...) aí ele casou. Não, casou *não*. Ficou de maior (p. 91)
 then he married. No, married no. Become majority
 ‘...the he got married. No, he didn’t get married. Actually, he came of age.’
- (19) .
 B: Foi ele *não*, foi o velho. (p.102)
 was he no, was the old-man
 ‘It was not him, it was the old man.’
- (20) A: Mas ele sabe que toma remédio? (p.138)
 but he knows that take-3ps medicine
 But does he know that he takes medicine?
 B: sabe *não*
 knows no
 ‘No, he doesn’t.’
- (21) A: A senhora tá sem remédio” tá sem comida” (p.152)
 the lady is no medicine” is no food
 ‘Are you, madam, without medicine or food?’
 B: tô *não* (...), tenho remédio’ tenho comida que minha comadre me deu
 am not, have-3ps medicine, have-3ps food that my friend me gave
 ‘No, I’m not. I have medicine. I have food, which my friend gave to me.’

[VP Neg] structures are restricted to contrastive contexts or as answers to biased polar questions. Considering that in all these contexts there is an alternative set and an explicit mentioning, it is possible to understand this item as a focus head which triggers the F-marked element in sentence to its scope.

The core component of the analysis is the insight that the clause-final *nãos* in (1b)- and (1c)-type structures are not in fact the same (BIBERAUER; CYRINO, 2009); instead, they instantiate distinct lexical elements, which are differently associated with the clausal spine. Specifically, the former (henceforth: *não₂*) is a non-negative element related to a polarity head (cf. LAKA, 1994), whereas the final clause *não* is a focus head in the left periphery of the sentence.

These facts indicate the derivational differences between *não₂* and *não₃*: *não₂* is associated with the TP area for its role in reinforcing the negative value in a sentence whereas *não₃* is associated with the CP area. Selkirk associates pitch accents with F-marks. According to her, focus elements are allowed to project higher in the syntactic tree. This seems to be the case for *não₃*, which triggers the movement of the contrastive IP to CP.

Apart from the differences between *não₂* and *não₃* in the northeast variety, there are differences between northeast and southeast with respect to *não₃*. Despite the contrastive meaning of *não₃* being the same, its structural occurrence is not always the same. The

example (22) illustrates a typical occurrence of *não*₃ in the northeast variety which is not possible in southeast variety:

- (22) A: As meninas vão ao Hopi Hari amanhã?
‘Are the girls going to Hopi Hari tomorrow?’
B: Cris vai *não*₃. [Southeast: x; Northeast: ok]
Cris goes not
‘Cris will not go.’

In this example, as in others present in this section, there is *common ground* and contrastive meaning associated with the *não*₃. However, there is, in this context, a conjunctive question. For instance, in the question *As meninas vão ao Hopi Hari amanhã?*, the speaker asks about a set, which can be divided into cells {Cris, Juliana, Tatiane}. In the answer, *Cris* is contrasted with the other cells. Taking into account the contrastive meaning and the conjunctive question, it is possible to say that in this case, we have a Contrastive Topic construction. However, CT constructions like that seem to be only possible in northeast variety.

2. On Syntax-prosody interface

In spite of terminological controversies found in the literature, it is possible to highlight three basic dimensions of information structure: 1) The division of the utterance into what it is about and that which comments on that part – *Theme-Rheme*; 2) Division of an utterance into an informative and an uninformative (or newsworthy) part – *Background-Focus*; and 3) Cognitive representation of referent or proposition in the interlocutor’s mind – *Given-New*. (BAUMANN, 2008). It is also important to consider the concept of contrast – Contrastive Topic (CT) and Contrastive Focus (CF). Contrastive Topics are often understood to be topics with contrast (KRIFKA, 1998), with focus being an information-structural category that elicits alternatives.

Baumann (2008) discusses these three dimensions and affirms that new information always occurs in presuppositions, whereas given or accessible information can occur in presupposition or in focus, and it can be stressed or not depending on the degree of givenness. According to him, pitch attribution does not depend on the degree of activation (BAUMANN 2008, p.99): “[I]f a speaker wishes to present a constituent as particularly newsworthy, s/he can highlight this constituent irrespective of its activation status”. It is common in contrastive utterances, in which these clearly given items may be focused using not only a *pitch* accent, but with a particularly salient accent at an extra high pitch.

According to Féry & Ishihara (2010), focus and givenness affect *f0* register scaling, but not, directly, the prosodic phrasing. They assume, like Truckenbrodt (1995), that focus is realized by prosodic prominence:

- (23) *Focus Prominence*
Focus is realized by prominence in its focus domain.

The prosodic focus domain corresponds to its semantic scope. It means that focus is interpreted and receives prosodic prominence in its domain. Thus, the domain contains the focused element and identifies the relevant presupposed information to the semantic interpretation of focus. It is a formal feature F which indicates focus and gives it its scope.

Givenness is also important to Féry & Ishihara's approach since they adopt Schwarzschild (1999)'s proposed free F-mark attribution. They present two restrictions related to F-mark on given information and another restricting to a minimal number of f-marks:

- (24) a. GIVENness: A constituent that is not F-marked is given.
 b. AvoidF: Do not F-Mark.

Féry & Ishihara also assume that given elements are G(iven)-marked. This distinction is necessary since, according to Féry & Samek-Lodovici (2006), given constituent are de-accented:

- (25) Destress-Given
 A given phrase is prosodically non-prominent.

In Féry & Ishihara's approach, information structure does not manipulate p-phrase boundaries, but changes pitch registers: focus enlarges it, givenness compresses it. The function of pitch accent manipulation is to boost, taking into account its status (given, new). If an element is in focus, the tendency is to have a higher top line, while a given constituent leads to top-line lowering within a certain domain. In this perspective, not only is the pitch prominence considered, but the whole sentence, since the information structure modifies the whole sentence scale. The pitch accent constraints are:

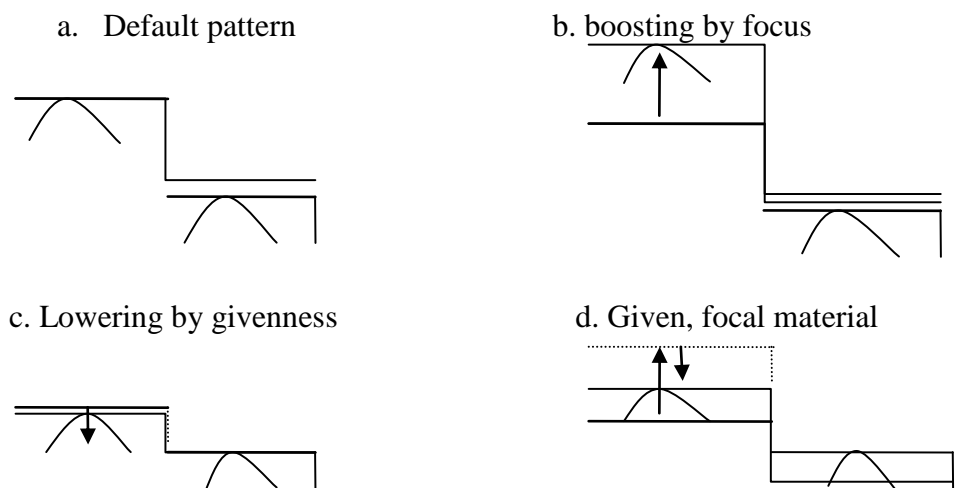


Figure 1 – Pitch accent constrained by the top lines of their respective prosodic domains (Féry; Ishihara, 2010, p. 43)

In this approach, as in others, pitch-accent distribution is regulated by syntax and accent projection. However, the framework adopts p-phrase recursion and denies that a singular prosodic structure is constructed by syntax and by information structure.

3. Brazilian Portuguese Intonation Pattern

The autosegmental framework assumes for BP that the main property of neutral declaratives is a H+L* bitonal pitch accent associated with the head of the phonological phrase (ϕ) of the intonational phrase (I). These neutral declaratives have a low (L%) boundary tone at the right of I when the last post tonic syllable of I is realized (TENANI, 2002; FERNANDES, 2007).

According to Fernandes, the prosodic word (w) is the relevant prosodic unit in BP. As she observed, all prosodic words in BP receive a pitch accent in a neutral context.

With regards to the occurrence vs. non-occurrence of pitch accent, Fernandes (2007) provides evidence for the distribution of pitch accents with respect to focused elements. She makes some generalizations. According to her, focused elements may have the same pitch accent that they receive in a neutral context (H*+L versus L*+H) or they may have the same tonal combination that they would receive in a neutral context (L*+H). Sentences with a focused subject show, as a critical characteristic that distinguishes them from neutral sentences, the absence of tonal accents associated with intermediate phonological words (between the head of ϕ , which contains the focused subject, and the syllable head of the last ϕ of I).

Armstrong & Schwenter (2009), also analyzing negative sentences in BP, identified a deaccenting pattern on given information in [Neg VP Neg] and [VP Neg] structures. In their results, [Neg VP Neg] and [VP Neg] sentences bear a H+L* pitch accent over the ϕ head, which is typical of neutral sentences. According to them, there is no one-to-one mapping between syntax and prosody in these structures. Nonetheless, in addition to the de-accenting pattern, they observe that it is possible that the speakers produce pitch accents in a higher frequency (between 100-150 Hz) in these structure-types.

4. Methodology

4.1. Material and methods

For this study, I have recorded ten native speakers of BP, aged 25 to 35 years old. To record the speakers, I used 23 situations with two possible reactions: they were asked to choose the more natural one and to spell it out. Among the 23 situations, 18 were composed from contexts that introduced common ground – which is important to the occurrence of [Neg VP neg] and [VP neg], and five unrelated situations with the intent of distracting the speaker's attention.

All sentences were segmented in V-to-V units, from the beginning of a vowel until the beginning of the next, because of the relevance of this kind of unit for both speech production and perception (See Dogil & Braun 1988; Wong & Schreiner 2003).

At the end of the experiment, I had 123 sentences: 60 produced by speakers of the southeast variety of BP and 63 by speakers of the northeast.

4.2 DaTo System

The DaTo intonational annotation system (Dynamical Tones of Brazilian Portuguese) was used for my analysis. This system, devised by Lucente (2008), describes focus in intonation taking into account the notion of dynamical contour. The alignment in this approach was formulated according to a synchrony between phonation and articulation.

The DaTo system proposes that focus descriptions assume the following tones for BP: HL (falling), >HL (late falling), LHL (rising-falling), LH (rising), >LH (late rising), HLH (falling-rising) with L (low) and H (high) boundary tones. This system presupposes an annotation based on: automatic detection of pauses; speech segmentation in V-to-V units; orthographic transcription and pragmatic information.

The relation between ToBI contours and DaTo contours are in the Table 1.

ToBI	DaTo
<i>Pitch Accent</i>	<i>Level Contours</i>
L*	L
H*	H
	<i>Dynamic Contours</i>
L+H*	LH
L*+H	>LH
H+!H*	LHL
	HLH
H+L*	HL
H*+L	>HL
<i>Phrasal Accent</i>	
L-	
H-	
<i>Boundary tones</i>	<i>Boundary tones</i>
L%	L
H%	H

Table 1- DaTo system in relation to the intonational phonology
Source: Lucente (2008)

5. Results

In this section, I present the results of the intonational analyses of negative sentences. To verify the interaction between information structure and prosody, I observed the f_0 curve for each sentence, having as a parameter of comparison a neutral declarative pattern (all-new). Figure 4 illustrates the neutral declarative intonational pattern in BP:

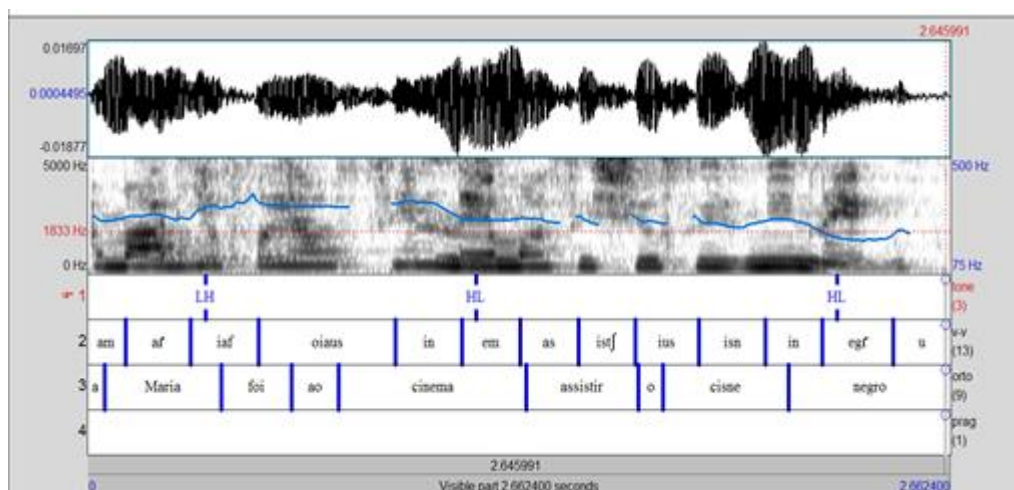


Figure 4 – A Maria foi ao cinema assistir o cisne negro
 ‘M. was to the cinema watch the black swan.’

The analyzed declaratives in a neutral context exhibited pitch accent on each phonological phrase, as illustrated above. However, an important aspect observed is the presence of a *downstep* pattern in each P-phrase in relation to the previous. This pattern also is found in German and Japanese. According to Féry & Ishihara, all-new sentences exhibit a downstep pattern: the top line of each phrase is lower than that of the previous one. That seems to be the BP pattern for all-new sentences. Thus, I considered it as the default pattern to neutral declarative sentences in PB.

Through the intonational analyses of negative sentences in BP, it was possible to identify specific patterns of non-canonical negation in BP among the recorded speakers. However, different patterns were found in each variety.

5.1 [Neg VP Neg] intonational patterns

Among the speakers of the southeastern variety, I observed the lack of pitch accent on the phonological phrases which precede the second negative item *não* and, in some cases, there was only a compressed pitch accent on the immediate p-phrase before the negative item. The contour type on the *não* was not always the same: some speakers produced falling contours (>HL, HL) and others a rising contour (LH). Figures 5, 6 and 7 below illustrate the patterns found for [Neg VP Neg] in the southeast variety.

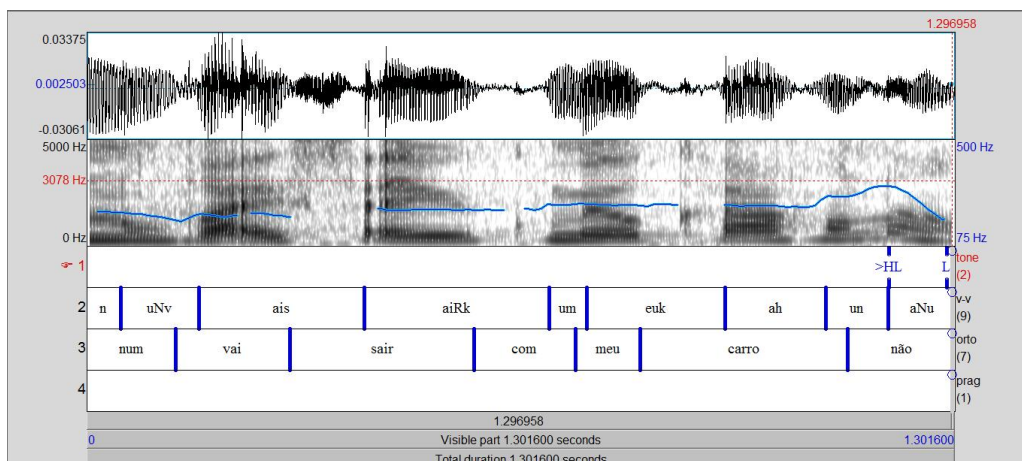


Figure 5 – Não vai sair com meu carro não
 ‘You will not go out with my car’

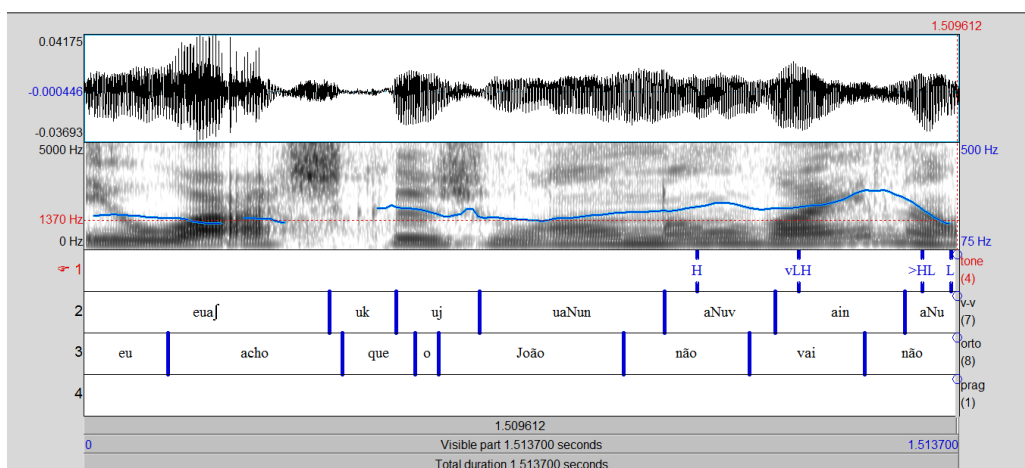


Figure 6 – Eu acho que o João não vai não.
 ‘I think that J. will not go’

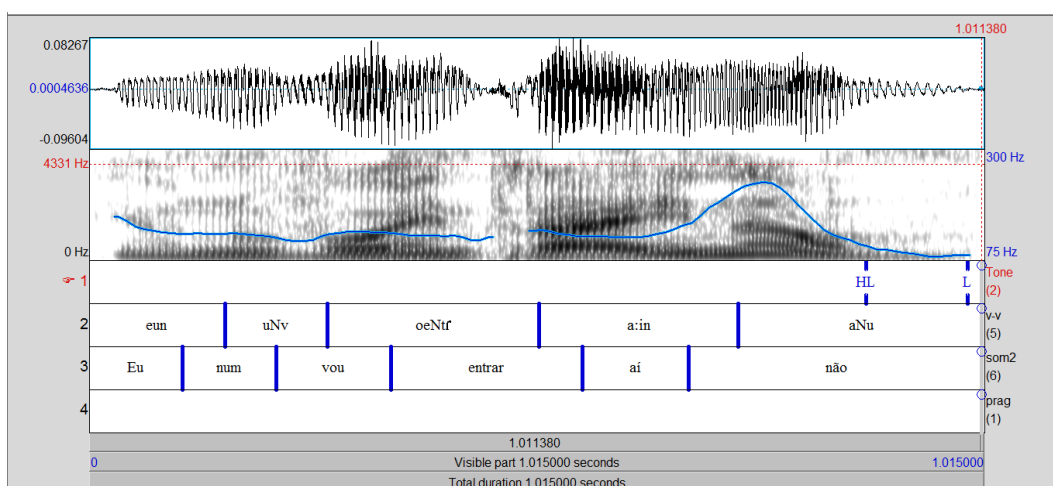


Figure 7 – Eu não vou entrar aí não.
 ‘I will not go in there’

Differently from neutral declarative sentences, where there is a pitch accent on each P-phrase and a downstep pattern in each p-phrase in relation to the previous one, in [Neg VP Neg] sentences, pitch accents were not found on the intermediate p-phrases. I only found pitch accents on the second negative item and sometimes on the verb before the negative item. These data indicate that there is top line lowering of the items which precede the negative item. This lowering corresponds to the de-accentuation of given information, since all contexts contained common ground. Regarding the accentuation type, I observed that the variation was dependent on speaker choice, which indicates that there is no relation between accent-type and information structure.

Despite the deaccentuation pattern being more frequent, in two cases, I observed no deaccentuation of the propositional content. However, in those cases, there was no pitch accent on the second negative item (*não*₂).

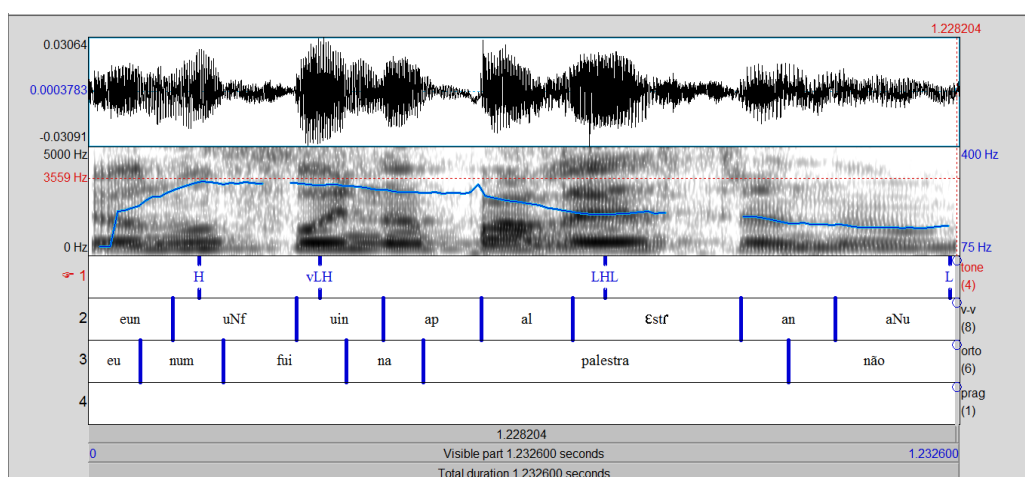


Figure 8 – Eu não fui na palestra não
'I'm not going to the lecture'

Among the speakers of the Northeast variety, there were fewer cases of deaccentuation: only nine, to be precise. The more frequent pattern was the presence of pitch accent on each p-phrase and upstep on each p-phrase in relation to the previous one in [Neg VP Neg] sentences. Since the neutral declarative is generally composed of downstep, I interpret the northeast upstep pattern as a different way to express prosodic prominence on the final negative item in [Neg VP Neg] structures.

In some cases, however, neither upstep nor contour HL on the final negative item was observed, which I considered non-prominent.

Figures 9 and 10 show the [Neg VP Neg] intonational pattern of the northeast variety.

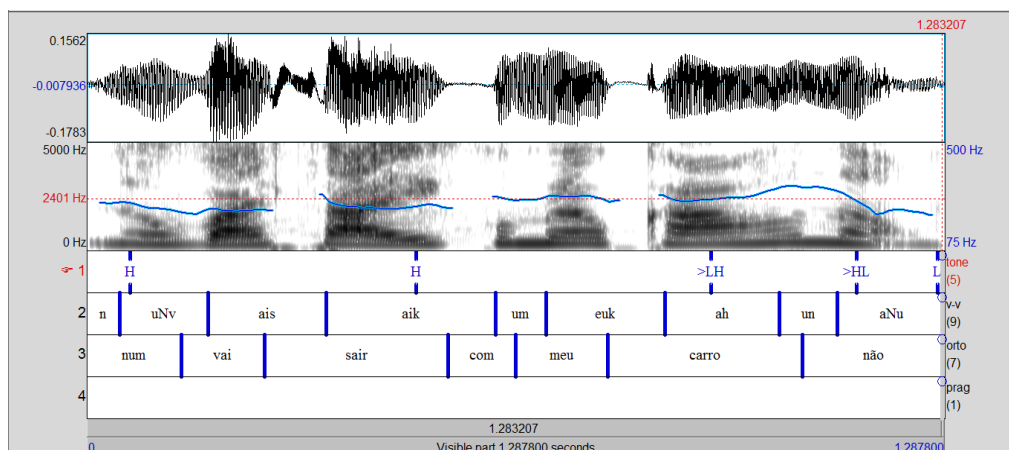


Figure 9 – Num vai sair com meu carro não
 ‘You will not go out with my car’

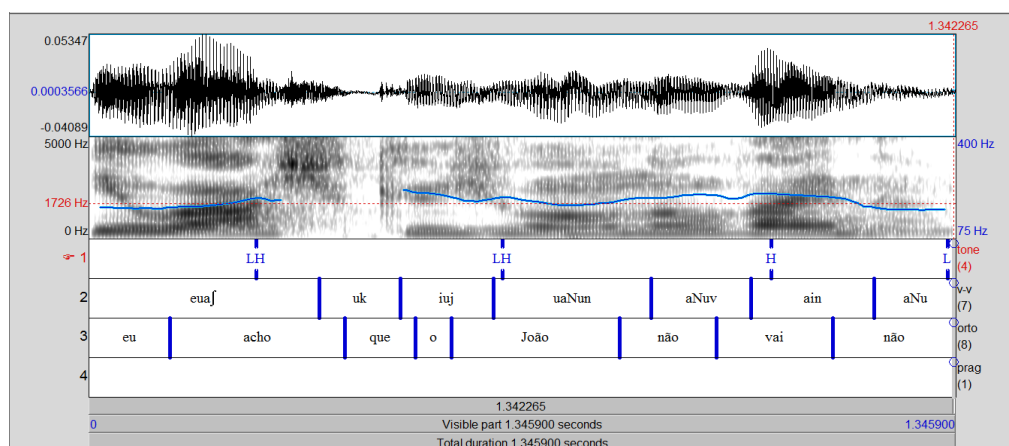


Figure 10 – Eu acho que o João não vai não.
 ‘I think that J. will not go’

The [Não VP Não] data from northeastern speakers indicate that in this variety the second negative item is generally non-prominent, as Biberauer & Cyrino (2009) predicted. However, this result is not expected if we understand this structure as resulting from focus, since polarity focus is generally accompanied by prosodic prominence. On the other hand, it is important to consider that the second *não* in [Neg VP Neg] is in the most embedded spot in the sentence, which is considered the most prominent one according to the nuclear stress rule (NSR).

[Não VP Não]	Southeast variety		Northeast variety	
	No.	%	No.	%
Deaccenting	27	93	9	31
Upstep pattern			7	24
Neutral context	2	7	13	45
Total	29	100	29	100

Table 2 – Deaccent and upstep frequency and percentage in both varieties

As the Table 2 illustrates, the use of prosodic prominence is more frequent among the speakers of southeast variety. Apart from the differences in prominence, there are also differences between southeast and northeast varieties with respect to contour-type. While in the southeast variety it is possible that either rising contours (LH, >LH) or falling contours (HL, >HL) will occur in *não*₂, in the northeast variety only falling contours (HL, >HL, LHL) will occur.

5.2 [VP Neg] intonational patterns

Also in the *f0* analysis of [VP *não*] structures, it was possible to observe different patterns shared by the southeast and northeast varieties. In the southeast data, the most frequent pattern was not different from a neutral declarative pattern, in which each prosodic word receives a pitch accent. Considering that most of the data comprised a verb plus the negative item, verb constituents (LH, HL) and negative items (HL) were mapped in different P-Phrases.

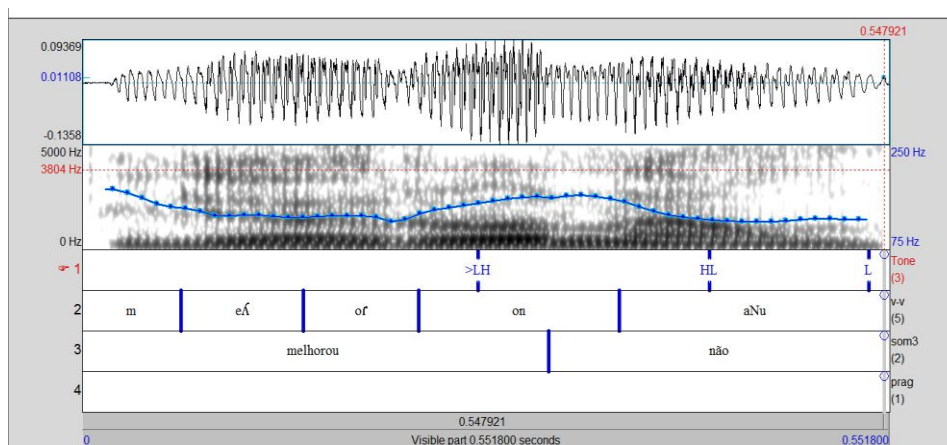


Figure 11 – Melhorou não.
‘He is not getting better’

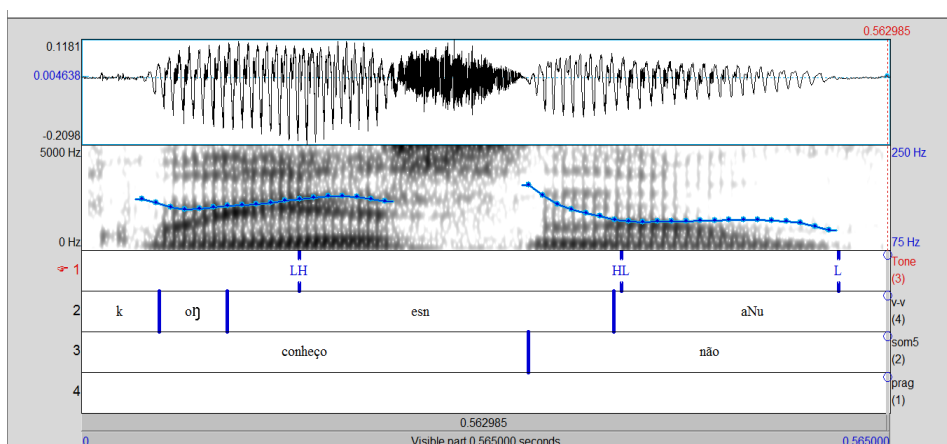


Figure 12 – Eu não sei.
‘I don't know’

Among the speakers of the northeast variety, unlike those of the southeast variety, there was mostly the occurrence of only one pitch accent, which indicates that the verbal phrase and the negative item in [VP Neg] are mapped in the same prosodic phrase. Three of the five speakers recorded produced this pattern in all data, except in sentences like *João vai não*, which seem to be of topic rather than focus construction since in the context there is a conjunctive set. In these cases, there was a LH contour on the verb and a HL contour on *não*.

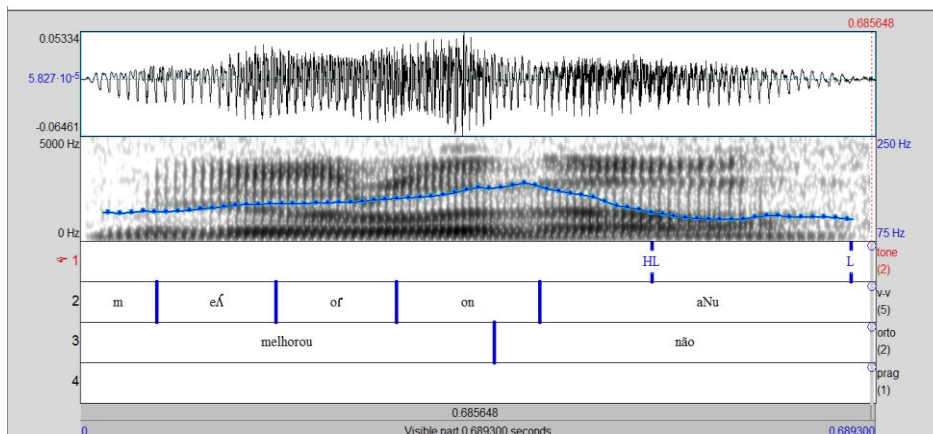


Figure 13- Melhorou não
'He is not getting better'

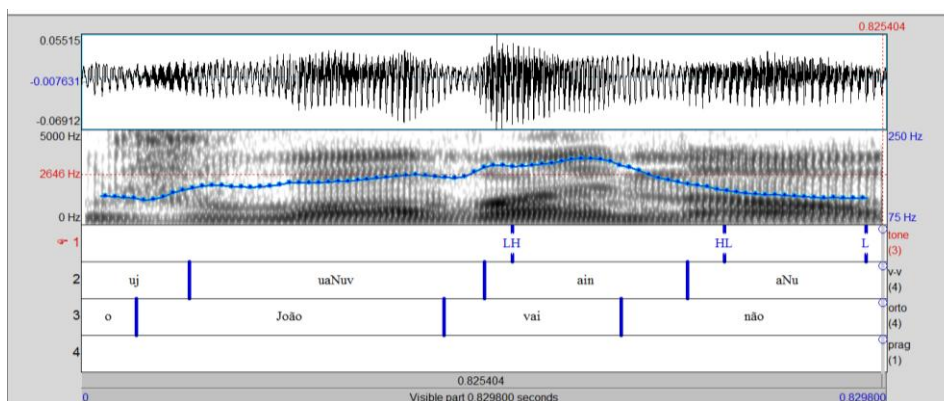


Figure 14 – O João vai não
'J. is not going'

These data indicate that *João vai* is in a different P-phrase than *não*, receiving a LH contour. Since this difference in mapping is not observed among the speakers of the southeast variety, one can suppose that it is a strategy to convey different information in speech or syntactic structure. For this reason, I believe, as Féry & Ishihara do, that in the case of an information-structure phenomenon, the XP to P mapping is not one-to-one.

[V Não]	Southeast variety		Northeast variety	
	No.	%	No.	%
2 contours	16	67	11	35
1 contour	8	33	20	65
Total	24	100	31	100

Table 3 – One versus two contours (frequency and percentage)

Final Remarks

The intonational analysis to the northeast variety shows that in (1b)-type structures the $n\tilde{a}o_2$ has mainly the ordinary final sentence intonation pattern, which indicates that in this variety this item is not prominent. No difference in prosodic phrasing was observed in [Neg VP Neg] either. The same pattern was not observed in (1c)-type structures. In these structures, there was a different prosodic phrase since the VP and negative item are together in the same ϕ . In the southeast variety, on the other hand, (1b)-type structures exhibit deaccentuation of a given content, whereas (1c)-type structures show focus contour (HL) on $n\tilde{a}o_3$, which is interpreted as contrastive negation, and a regular prosodic phrase.

In the northeast variety, however, CT construction with contrastive negation has a different prosodic phrase from CF construction. Considering that this structure is only observed in the northeast variety, one can say that the difference in prosodic phrase has the function of indicating a different syntactic structure. Only in the case of the northeast variety can we say that prosodic phrasing is an available strategy to indicate different syntactic structures.

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