

The pragmatics of verbal negation in Brazilian Portuguese

Hypothesis testing with corpus data

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This paper focuses on testing a pragmatic hypothesis about verbal negation in Brazilian Portuguese (BP). The BP verbal negation system presents three forms, namely: preverbal, double, and postverbal negation. Schwenter (2005) claims that there are constraints in the use of the non-canonical forms, i.e. double and postverbal negations. According to the author, double negation can negate only inferable or directly activated propositions and postverbal negation can negate only directly activated propositions. We tested this hypothesis with data from the C-ORAL-BRASIL reference spontaneous speech corpus of BP (Raso & Mello 2012). The results show that there is a tendency for Schwenter's hypothesis about double negation to be confirmed, but this is not the case for postverbal negation. The corpus data examined reveal a high proportion of occurrences that do not comply with the proposed hypothesis. Further research is needed to advance the understanding of constraints about the use of the non-canonical forms of negation in BP.

Keywords: Verbal negation, Brazilian Portuguese, spontaneous speech corpus, Pragmatics

1. Introduction

The aim of this paper is to report on the results found upon testing a hypothesis about the pragmatics of verbal negation in Brazilian Portuguese (BP) from a corpus-based perspective. BP verbal negation system presents three forms:

- (1) Preverbal¹:
 *BAL: lembre-se que você não pode ficar meneando hhh // (bfamd102, 116)
 ‘*BAL: remember that you can’t be moving around’ 
- (2) Double:
 *JMA: No’ / dois / impaciente na minha vida eu ã vou güentar não // (bfamd112, 47)
 ‘*JMA: wow, two impatient people in my life I can’t take’ 
- (3) Postverbal:
 *HEL: vendeu ainda não // (bfamd120, 297)
 ‘*HEL: (it) hasn’t been sold yet’ 

Our paper offers a synchronic analysis of pragmatic aspects of these three verbal negation forms in a spontaneous speech corpus. Therefore, we will not explore the sources for these three variant forms in BP, which have been discussed elsewhere in the literature (cf. Schwenger 1991). This paper is divided in the following sections: in section 1 we present Schwenter’s 2005 hypothesis about the pragmatics of verbal negation in BP, in section 2 we present the methodology as well as the corpus we used in this research, in section 3 we explore the data analysis, in section 4 our results are presented and in section 5 we conclude with some final remarks.

2. Schwenter’s hypothesis on BP verbal negation

As there is no semantic difference between the three forms of verbal negation in BP, the choice of using a specific form should be governed by pragmatic factors. Schwenter (2005) proposes that the difference between canonical (single preverbal negation) and non-canonical (double and postverbal) verbal negation lies in what he sees as information structure, particularly in the discursive status of the negated proposition. Double negation, represented as NEG2 by that author, could not be held in a context in which the information is new. Schwenter provides an example that illustrates this restriction:

¹ The conventions for the coding identification of C-ORAL-BRASIL files are as follows: *b* = Brazilian Portuguese, *fam* = familiar/private context, *pub* = public context, *mn* = monologue, *cv* = conversation, *dl* = dialogue and then the number of the text. The numbers between hyphens refer to utterance numbers of the text. Starred abbreviations stand for the speaker’s name. Double slashes represent a terminal break; one slash represents a non-terminal break.

- (4) [speaker walking down the street and suddenly remembers she forgot to turn off the stove]
 Nossa! Eu não desliguei o fogão (#não)!² (Schwenter 2005: 1434)
 ‘My! I haven’t turned off the stove!’

In the example above, from a discursive point of view, the material uttered by the speaker consists of new information, since it can be said that absolutely nothing was mentioned about the stove previously. From the situational point of view, expectations are given implicitly, as the speaker expected to have turned off the stove before leaving home. Therefore, even if expectations are given, the discursive information should not be new. Taking the same context, the doubly negated sentence would be acceptable if the information on the stove were either given or discursively old, as shown in the author’s example:

- (5) A: Você desligou o fogão, né?
 B: Nossa! Não desliguei não! (Schwenter 2005: 1435)
 ‘A: You’ve turned off the stove, right?’
 B: My! I haven’t turned off the stove!’

In (5), speaker A produces a propositional content that acts as a trigger for speaker B’s sentence to be acceptable in this context precisely because it addresses given information. Thus, Schwenter considers that the relevant information should be activated so that NEG2 can be discursively acceptable. This means that information cannot be discursively new, even though the pragmatic context might be given to the interlocutors. Schwenter (2005) uses another example to explain this situation: a husband and his wife expect the plumber to fix a leak in their home while they are working during the day. Before the wife got home from work, the husband notes that the plumber did not show up and the leak persists. When his wife arrives, having the same expectation that the leak has been repaired, the husband breaks the expectation by saying: *O encanador não veio* ‘The plumber didn’t show up’. However, if the husband had said *O encanador não veio não* ‘The plumber NEG come-PAST NEG’ the sentence would be not pragmatically acceptable (infelicitous), even if the woman had been aware of the expectation about the plumber’s visit, since this is pragmatic information given to the interactants (hearer-old). On the grounds that the material uttered by the husband is discursively new information, only preverbal negation is acceptable. If the woman had asked about the status of the leak, the dou-

² ‘#’ marks violation for pragmatic acceptability condition.

ble negative would be allowed since the negated proposition would be discourse-old information activated by the wife's question. Thus, it is discourse-old information, according to Schwenter, that licenses the use of the double negative, not just the oldness or givenness status of the proposition (hearer-old) (see Schwenter 2005: 1435). Schwenter also states that discourse-old information not necessarily needs to be textual. This means that discourse-old information might be constituted by, for example, the wife's simple facial gesture in order to ask if the plumber had shown up to fix the leak; therefore, that facial gesture would be enough of a background for the use of the double negative to be acceptable in the context of the example described above by the author.

According to Schwenter (2005), the proposition negated by NEG2 can either be discourse-old information or inferred from the discourse context, allowing the speaker to recognize that this proposition can be inferred. The author provides the following example to illustrate his assertion:

- (6) E- [...] E o samba lá embaixo? Pelo menos o pessoal gosta, né?
 F- É, muita gente vai. Agora eu não vou não. Tem uns dois ou três ano que eu não entro na quadra da Vila para nada. Eu saí foi em oitenta. Em oitenta eu desfilei na Vila. (Schwenter 2005: 1436)
 'E – [...] how about samba down there? At least people enjoy it, right?
 F – Yeah, a lot of people do. But me, I didn't go there (I NEG go-PAST NEG). I haven't been to samba dancing room at Vila at all for two or three years. Last time I joined in was in 1980. In 1980 I paraded for Vila.'

The author points out that the assertion *muita gente vai para o samba* 'many people join samba' licenses the inference that speaker F also joins in the samba. Therefore, the utterance that contains NEG2 negates precisely this inferable proposition, which means that F recognized that the proposition *muita gente vai* 'Many people join in' (including the speaker) could be inferred by E. Thus, the discursive context, through the inferable proposition, licenses the use of NEG2 by F.

Schwenter also makes considerations about postverbal negation, or NEG3 in his terminology. For him, postverbal negation "is employed to negate the proposition that is directly activated by the interviewer's question" (Schwenter 2005: 1449), as in (7) below:

- (7) A: Você gostou da palestra da Maria?
 B: Gostei não.
 'A: Did you enjoy Maria's lecture?'

B: I didn't. (lit. (I) enjoy-PAST NEG3)'

- (8) A: Você gostou da palestra da Maria?
 B1: #Fui não.
 B2: Eu não fui não. (*ibidem*)
 'A: Did you enjoy Maria's lecture?
 B1: # I didn't go. (lit. (I) go-PAST NEG3)
 B2: I didn't go. (lit. I NEG go-PAST NEG)'

In (7), B's utterance is pragmatically acceptable because it negates a proposition activated directly by A's discourse. Example (8) shows a restriction for the use of postverbal negation. Schwenter (2005) says that, based on the question, it is inferred that A believes that B attended Maria's lecture, so the use of the double negation is acceptable in this context (B2). However, postverbal negation would not be acceptable because the proposition negated by B1 "is not explicitly activated by the question, but rather derived from it via process of conversational inference" (Schwenter 2005: 1449). Therefore, NEG3 is only pragmatically acceptable when "the previous discourse has literally negated content" (Goldnadel & Lima 2011: 250)³.

About preverbal negation or NEG1, Schwenter (2005) states that it is free to deny "expectations that are strictly speaker- and/or hearer-old but discourse-new, i.e., propositions that have not been 'triggered' in any way by the content of the ongoing discourse". Schwenter (2005:1452) proposes the following table systematizing BP negation forms according to the status of the negated proposition:

Table 1. BP negatives, by information status of the negated proposition

Form	Discourse-new	Inferrable	Directly activated
NEG1	OK	OK	OK
NEG2	#	OK	OK
NEG3	#	#	OK

The author explains that the canonical negation, or NEG1, can negate propositions whose content has not been "triggered" in the discourse (discourse-new), inferable content from the speech and directly enabled content in speech (directly activated). The double negative or NEG2 can negate the content of a proposition that constitutes old information (discourse-old), however this proposition

³ Our translation for: "o discurso precedente apresenta conteúdo negado de maneira literal".

should be “inferentially derived from another discourse-old proposition” (Schwenter 2005: 1452) or, in some cases, presented as old information (discourse-old) by the participants. Postverbal negation or NEG3 only negates propositions directly activated in the ongoing speech. It is worth mentioning that the hypothesis was tested by Schwenter (2005) with speech data from the city of Rio de Janeiro.

Goldnadel and Lima, analyzing data from the VARSUL project⁴, concluded that Schwenter’s hypothesis “about the pragmatic constraints involved in the use of negation forms is correct” (Goldnadel & Lima 2011: 258)⁵. However, the VARSUL recordings represent only sociolinguistic interviews. This means that this database contains only one diaphasia, namely, the sociolinguistic interview. This fact does not preclude the possibility of Schwenter’s hypothesis to be tested; however a corpus that presents a broad range of diaphasic variation would provide better empirical grounds for research aiming at testing a pragmatic hypothesis.

3. Methodology

The methodology used for our analysis was based on two procedures in the choice of verbal negation examples from the C-ORAL-BRASIL corpus, namely: the examination of the audio recordings and their aligned transcriptions through the text-to-sound alignment function provided by Winpitch software⁶ by Philippe Martin and the identification of the denied referent in the speech event. The verification on the denied referent aimed at identifying whether it was explicit in earlier utterances or was inferable from the context. The question of whether a referent can be inferable turns the analysis into a subjective issue since what can be inferable for one person may not be so for another. However, in our evaluation, the samples seemed clear as to when a reference was inferable or not.

⁴ The VARSUL project is dedicated to the description of spoken and written Brazilian Portuguese from the South of Brazil. For more information about the project, visit <<http://www.varsul.org.br/>>.

⁵ Our translation for: “a respeito das restrições pragmáticas envolvidas no uso de negações está correta”.

⁶ <http://www.winpitch.com>

3.1 The C-ORAL-BRASIL corpus

C-ORAL-BRASIL (Raso & Mello 2012) is a reference corpus of BP spontaneous speech. It is diaphasically representative, containing 139 texts divided into monologues, dialogues and conversations from familiar/private and public situations. The C-ORAL-BRASIL corpus is a rich data resource to be employed for the testing of Schwenter's hypothesis about the status of the negated referent; this is so because the corpus brings a broad range of variation of contexts in which spontaneous speech is used. This is a positive asset in relation to other data resources that have been employed to test Schwenter's hypothesis, since, as previously mentioned, they represent only one diaphasia.

4. Data analysis

In previous studies, Schwenter's hypothesis was tested through speech data from the city of Rio de Janeiro as well as by introspection data (Schwenter 2005). Goldnadel & Lima (2011) tested this hypothesis with speech data from the VARSUL project. The authors concluded that the hypothesis is confirmed. The analysis presented in this paper aims to test Schwenter's hypothesis with C-ORAL-BRASIL data against the parameters presented in Table 1.

Preverbal negation or NEG1 does not present any restriction in its use; therefore, it may occur as discursively new, inferable or directly activated information. There is nothing that prevents its realization and it is largely found in our database, being by far the most common type of verbal negation found in the analyzed data. However, as previously stated, the hypothesis predicts that double negative or NEG 2 cannot take place as discursively new information. Such negation may, however, occur as inferable or directly activated information. Our data both support and contradict the hypothesis assumption about NEG 2, as it will be shown below through examples. In (9) below the double negative obeys the restriction presented in Table 1 as the expression *tomar conhecimento* 'to get to know' is repeated in the discourse, providing the necessary condition for the realization of NEG2:

- (9) [discursively old information⁷]
- *RUT: <da> família &d [3] / <da família> dele / minha filha / <também nũ> tomo nem conhecimento também //
- *JAE: eu tô <voltando> //
- *TER: <ahn> // <ahn> //
- *RUT: só que em compensação / da minha família também / ele / também / nũ toma conhecimento não / minha filha // (bfamcv02, 213-217)
- *RUT: <of> family &d [3] / <of his family> / my dear / <don't even> I don't even care //
- *JAE: I am <coming back> //
- *TER: <ahn> // <ahn> //
- *RUT: but on the other hand / about my family too / he / too / doesn't even care / my dear (NEG care NEG) / my dear //



In (10) below, the negation regarding the information status is inferable from the context: a couple talks about a professorship selection process, LAU explains that he was one of the candidates and at one point in the dialogue LUZ says she doesn't understand which call he is applying for.

- (10) [inferable information]
- *LUZ: mas é pra mestre ou pa doutor / essa aí // pra / adjunto / ou pra +
- *LAU: uma é pra doutor / e as outras são pra <mestre> //
- *LUZ: <não> / a de imagem // essa que cê falou que cê faria //
- *LAU: eu acho que é a de &dou + não / é + é de + são duas / <que eu &v [3] que eu vou fazer> //
- *LUZ: <ah / são duas / pra> mesma // coisa // são duas vagas / pro mesmo / tema //
- *LAU: não / Luzia //
- *LUZ: ahn / <nũ entendi então não> // (bfamd103, 130-144)
- *LUZ: but is it for a MA graduate or a PhD / this one // for / assistant / or for +
- *LAU: one is for a PhD / and the others are for <MA graduate> //
- *LUZ: <no> / the image one //this one you said you would compete for //
- *LAU: I think it is the one for &ph + no / is + is for + they are two / <That I should &t [3] that I will try> //
- *LUZ: <ah / they are two / for> the same same // thing // there are two



⁷ The symbol [n] represents retracting phenomena (i.e., false starts), where *n* corresponds to the number of retracted words. The symbol + stands for unintentionally interrupted sequences. The symbols < > are used for speech overlapping.

calls / for the same / subject //
 *LAU: no / Luzia //
 *LUZ: ahn / <then I didn't get (NEG understand-PAST then NEG) what
 you mean> //

In (11) below, a counterexample to Schwenter's hypothesis is presented, going against the typology available in Table 1, as it exhibits a negated referent that is neither old nor inferable information. In (11), some friends are grocery shopping, and discussing which bathroom disinfectant to buy. Out of any previous context or mention, FLA suggests to her friend REN to buy another unrelated product, through a doubly negated question:



- (11) [against Schwenter's NEG2 hypothesis]
 *REN: xá eu ver o rosa aqui // não // prefiro o &ver [2] o azulzim //
 *FLA: só // cê nũ quer comprar um trenzinho que espirra pro seu
 banheiro não //
 *REN: trenzim que espirra //
 *FLA: é / aquele que a gente tem no nosso //
 *REN: ah // (bfamdl01, 172-179)
 *REN: let me see this pink one here // no // I'd rather &check [2] the
 blue //
 *FLA: right //don't you wanna buy a spraying stuff for your bathroom
 (you NEG buy a spraying stuff for your bathroom NEG) //
 *REN: spraying stuff //
 *FLA: yeah / the one we have in ours //
 *REN: ah //'

Turning now to V Neg or NEG3, (12) is an example in which Schwenter's hypothesis is supported. According to his hypothesis, V Neg can only negate information directly activated in the preceding discourse, that is, this kind of negation should be performed immediately after a reference is made to the same information.



- (12) [favorable to Schwenter's hypothesis: directly activated information]
 *GUI: vento sul / cê quer / Lívía //
 *LIV: não / quero não // (bfamcv27, 89-90)
 *GUI: South wind / do you want / Lívía //
 *LIV: no / I don't (want NEG) //'

Contrary to Schwenter's hypothesis, we have found several examples such as (13) below, in which NEG3 occurs even though there has been no previous acti-

vation of the negated discourse information. In (13), some friends are exchanging soccer passes information while they play a match, and the last utterance is unrelated to anything previously mentioned in the interaction:

- (13) [unfavorable to Schwenter's hypothesis: no activated information in the previous discourse]
- *JOS: aqui nũ tem jogo pra ele não / varão //
- *CAR: não / e' nũ passa por mim também não / sô // pode ir / Zé // pode / Zé //
- *MAR: sua //
- *CAR: aqui / Zé //
- *JOS: é nossa //
- *MAR: ah / aqui não //
- *CEL: briga não / sô // (bfamecv05, 427-435)
- *JOS: there is no game for him here / man //
- *CAR: no / he doesn't come through me either / brother // go / Zé // go / Zé //
- *MAR: yours //
- *CAR: here / Zé //
- *JOS: (it) is ours //
- *MAR: ah / not here //
- *CEL: don't fight (fight NEG) / man //



In the next section, we will present and discuss the quantitative results vis-à-vis Schwenter's hypothesis, taking into account data from the C-ORAL-BRASIL corpus.

4. Results

In this section we present the quantitative results and their statistical analysis. Firstly, we present the distribution of verbal negation in the analyzed C-ORAL-BRASIL corpus data.

Table 2. Verbal negation distribution in C-ORAL-BRASIL corpus

Negation	Preverbal	Double	Postverbal	Total
	2,262	704	148	3,114
Total	72.63%	22.62%	4.75%	100%

We analyzed 704 cases of double negation and 148 of postverbal negation. Below we present charts with quantitative results and statistical analysis referring to both non-canonical negation forms.

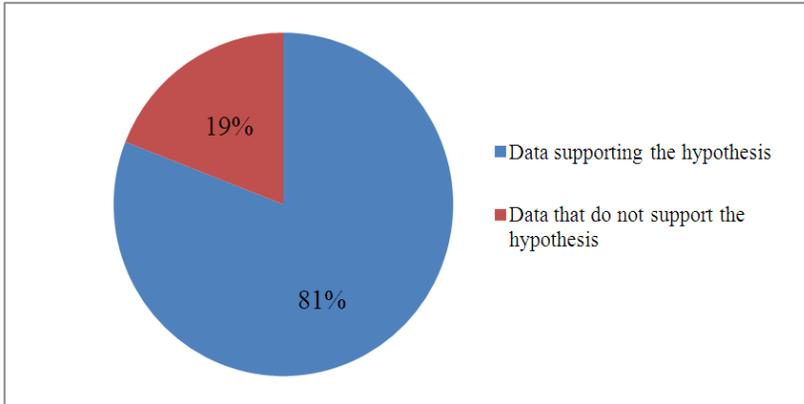


Figure 1. Neg V Neg data distribution in the C-ORAL-BRASIL corpus vis-à-vis Schwenter's hypothesis

Figure 1 shows the distribution of occurrences of double negation in the C-ORAL-BRASIL corpus data, taking into consideration Schwenter's hypothesis. Although 81% of the data corroborate his hypothesis, 19% do not favor it. In order to check whether these results are statistically significant, two tests were applied through *R* statistical packages⁸. The first test refers to whether the sample has a normal distribution. The purpose in applying this test is to identify which statistical significance test should be applied depending on whether the found distribution is a normal one or not. The Shapiro-Wilk normality test showed that the variables do not show a normal distribution, given that the p-value is smaller than 0.05, as can be seen below:

- Data supporting the hypothesis: $W = 0.8303$, $p\text{-value} = < 0.001$ $\alpha = 0.05$;
- Data that do not support the hypothesis: $W = 0.7297$, $p\text{-value} = < 0.001$ $\alpha = 0.05$.

Thus, the test to be applied to measure the statistical significance of the data is the Wilcoxon Rank Sum test with continuity correction. The test states that if the p-value is greater than 0.05, the medians are equal. The result shows that the

⁸ R: A language and environment for statistical computing. <http://www.r-project.org/>

median values are different, so the distribution of the data point to the fact that the hypothesis treats the contexts that corroborate and those that do not corroborate it differently, i.e. the distribution in contexts that corroborate the hypothesis and in those that do not corroborate it are statistically significant, showing that there is a tendency for the proposed assumption about double negation to be correct: $W = 10689$, $p\text{-value} < 0.001$ $\alpha = 0.05$.

Figure 2 below shows the quantitative data analysis referring to postverbal negation occurrences based on the C-ORAL-BRASIL data. Results against the hypothesis are slightly predominant.

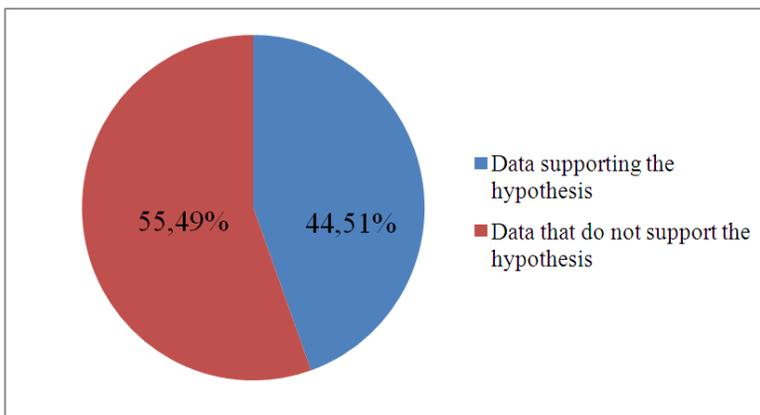


Figure 2. V Neg data distribution in C-ORAL-BRASIL corpus according to Schwenter's hypothesis

The same statistical tests mentioned for the analysis of double negation were again applied to the analysis of postverbal negation using R statistical packages. Shapiro-Wilk test showed that the variables do not show a normal distribution because the p-value is smaller than 0.05:

- Data supporting the hypothesis: $W = 0.7492$, $p\text{-value} = <0.001$ $\alpha = 0.05$;
- Data that do not support the hypothesis: $W = 0.7479$, $p\text{-value} = <0.001$ $\alpha = 0.05$.

Then the Wilcoxon test was used to verify whether the medians were statistically different or not. The test showed that they are not different, because the p-value is greater than 0.05, so the likelihood for the NEG3 hypothesis is incorrect: $W = 1860$ $p\text{-value} = 0.520$ $\alpha = 0.05$.

This result indicates that the hypothesis treats equally both contexts that corroborate it as well as those that do not corroborate it. Therefore, there is a tendency for the hypothesis of postverbal negation not to be correct.

4. Final remarks

Considering that there are counterexamples to Schwenter's hypothesis in both double and postverbal negation cases and that the percentage of counterexamples is very high within the data examined, it is not only desirable, but necessary, that other explanatory hypothesis be proposed in order for a larger percentage of the occurring data to be satisfactorily explained. Referring to denied new, old or inferable information does not seem to be a decisive restriction in the use of verbal negation in BP.

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