

## Intonation and phrasing in Brazilian Portuguese: implications for comma usage?

Geovana Soncin  
UNESP/FAPESP – São Paulo, Brazil  
geovanasoncin@gmail.com

This study presents results of two experimental designs that have tested, in Brazilian Portuguese, (a) the relation between production and perception of pauses and F0 variations in non-final intonational phrase boundaries (*I*, according to Nespor & Vogel, 1986) and (b) how what is produced and what is perceived in this prosodic boundary can serve as a clue for comma usage in written texts. In Brazilian Portuguese, there is a general belief, widespread also in the school context, that a comma marks a pause. In previous work, Soncin (2014) has analyzed commas employed in texts written by Brazilian students and has shown that there is a correlation between comma usage and *I*-boundary: the correlation was 93, 5% in the analyzed sample, whose statistical relevance was confirmed by Wilcoxon test. From the perspective of prosodic organization, studies about Brazilian Portuguese (Frota&Vigário, 2000; Tenani, 2002; Fernandes, 2007; Serra, 2009) pointed out that non-final *I*-boundaries are characterized by a boundary tone that can be produced with or without pause. Then, the production of a pause is allowed in this prosodic context, but is not required.

For the experimental tests, the material analyzed was composed by four pairs of sentences that, although they have the same segmental string, they present different meanings because of their different prosodic organizations in *I*-domain. In writing, the difference between the sentences of each pair is marked by the use of comma (see Table 1). These pairs of sentences were recorded by an actor in a soundproof booth at Laboratory of Phonetics at University of São Paulo State (UNESP/IBILCE) and were used as auditory stimulus. In the first task, the informants should answer if they listen or do not listen a pause within the sentences presented. In the second task, for each sentence presented in the auditory stimulus, the informants should choose the best punctuation option. The experimental tests were developed with the software PERCEVAL (available on: <http://www.lpl-aix.fr/~lpldev/perceval/>).

An acoustic analysis with the software *Praat* was done (based on Intonational Phonology, Ladd, 1996) for identifying the tonal differences between the sentences in comparison and the production of pauses. This analysis showed that the non-final *I* boundaries tested, where is required the comma usage, are characterized by the tonal event H+L\*, followed or not by a boundary tone L%. It follows, as an example, figures of F0 contours of a pair of sentences: one sentence with the non-final *I*-boundary and another without it.

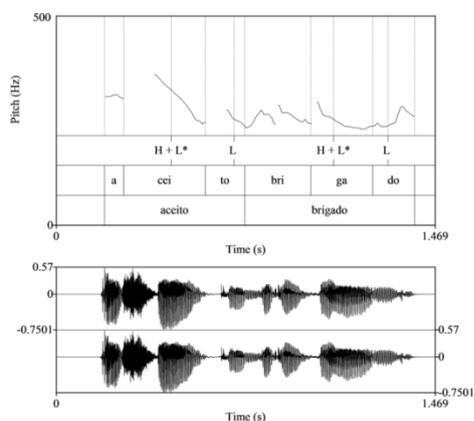


Figure 1: F0 contour of the sentence “Aceito, obrigado” / *I*-phrasing [aceito] *I* [obrigado] *I*. ‘I accept, thanks’ / [I accept] *I* [thanks] *I*

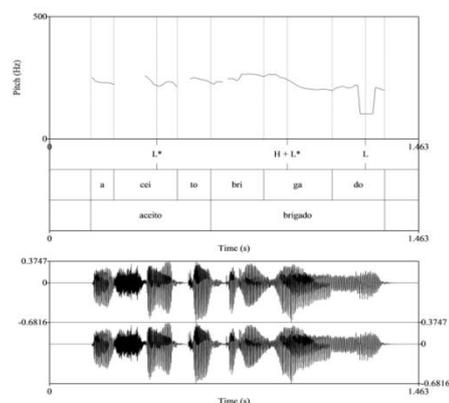


Figure 2: F0 contour of the sentence “Aceito obrigado” / *I*-phrasing [aceito obrigado] *I*. ‘I accept thanks’ / [I accept thanks] *I*

In general, the experimental tests have showed that: (i) in the task 1, pauses were perceived at non-final *I*-boundaries even when any pause is produced; (ii) in the task 2, commas were employed at non-final *I*-boundaries; (iii) comparing the results of both tests: in the task 2, the commas were employed in positions where a pause was perceived at non-final *I*-boundaries in the task 1. Based on these results, we observe that the tonal event H+L\* followed or not by a boundary tone L% can be interpreted as pause in domain of perception. Moreover, the correlation between comma usage and non-final *I*-boundary presented by Soncin (2014) is confirmed by the results of task 2, however, this work introduces as a new result that the comma usage in that prosodic boundary can be motivated by the perception of a pause. With this new fact, we have evidence that the pause, usually pointed out as a clue for the comma usage, is not necessarily a pause produced – a moment of silence –, but a pause perceived, what gives a more abstract feature to the pause. For us, an issue for discussion is to evaluate if, in the phonetic-phonological point of view, there would be a hierarchy between pauses and F0 variations that would organize the comma usage.

**Table 1: Pairs of sentences in comparison**

Pairs	Sentences(graphic form)	<i>I</i> -phrasing
Pair A	1: Não, mereçosaber. <i>No, I deserve to know.</i>	[não]I [mereçosaber]I
	2: Não mereçosaber. <i>I do not deserve to know.</i>	[não mereço saber]I
Pair B	1: Aceito, obrigado. <i>I accept, thanks.</i>	[aceito]I [obrigado]I
	2: Aceito obrigado. <i>I accept thanks.</i>	[aceito obrigado]I
Pair C	1: Isso apenas, ele resolve. <i>This only, he can solve.</i>	[isso apenas]I [ele resolve]I
	2: Isso, apenas ele resolve. <i>This, only he can solve.</i>	[isso]I [apenas ele resolve]I
Pair D	1: Vamos perder, nada foi resolvido. <i>We will lose, nothing is alright.</i>	[vamos perder]I [nada foi resolvido.]I
	2: Vamos perder nada, foi resolvido. <i>We will lose nothing, it is alright.</i>	[vamos perder nada]I [foi resolvido.]I

## References

FERNANDES, F. R. **Ordem, focalização e preenchimento em português: sintaxe e prosódia.** Campinas: 2007. Tese (Doutorado em Linguística). Instituto de Estudos da linguagem, Universidade Estadual de Campinas, Campinas.

FROTA, S. & VIGÁRIO, M. Aspectos de prosódia comparada: ritmo e entoação no PE e no PB. In: CASTRO, R. V. & BARBOSA, P. (Eds.). **Actas do XV Encontro Nacional da Associação Portuguesa de Linguística**, v. 1. Coimbra: APL, 2000, p. 533-555.

LADD, D. R. **Intonational Phonology.** Cambridge: CUP, 1996.

NESPOR, M. & VOGEL, I. **Prosodic Phonology.** Dordrecht-Holland: Foris Publications, 1986.

SERRA, C. R. **Realização e percepção de fronteiras prosódicas no português do Brasil: fala espontânea e leitura.** Rio de Janeiro: 2009. Tese (Doutorado em Linguística). Faculdade de Letras, Universidade Federal do Rio Janeiro, Rio de Janeiro.

SONCIN, G. C. N. **Língua, discurso e prosódia: investigar o uso da vírgula é restrito? Vírgula!** São José do Rio Preto: 2014. Tese (Doutorado em Linguística). Instituto de Biociências, Letras e Ciências Exatas, Universidade Estadual Paulista, São José do Rio Preto.

TENANI, L. E. **Análise prosódica das inserções parentéticas no corpus do Projeto da Gramática do Português Falado.** Campinas: 1996. Dissertação (Mestrado em Linguística). Instituto de Estudos da linguagem, Universidade Estadual de Campinas, Campinas.