

# DETERMINING FUNCTIONS OF SECOND PERSON PRONOUN FORMS *CÊ/OCÊ/VOCÊ* IN BRAZILIAN PORTUGUESE THROUGH ACOUSTIC ANALYSIS.

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## INTRODUCTION

Brazilian Portuguese (BP) presents three second person pronominal forms: the so-called standard one, *você*, and the reduced forms *ocê* and *cê*.

Most of the researches done on those forms consider *ocê* and *cê* grammaticalized forms and often *cê* a clitic one, that could have only a subject function. None of those researches was based on a spontaneous speech corpus as C-ORAL-BRASIL (RASO-MELLO, 2012) and, most of all, none of them consider the problem by an acoustic analysis way.

This study presents a new methodological approach for the investigation of second person pronominal forms *cê/ocê/você* in BP using the C-ORAL-BRASIL spontaneous speech corpus.

Our goal is to identify the tonicity or atonicity of the forms *cê/ocê/você* based on prosodic criteria. Previous works have determined *cê* atonicity (either as a clitic or in grammaticalization through cliticity) and function (always as subject) based on morphosyntactic criteria (VITRAL, 1996; RAMOS, 1997; VITRAL & RAMOS, 1999; 2006; 2008; PETERSEN, 2008; OTHERO, 2013, among others).

In this study we propose that tonicity must be examined in relation to prosody. The main lexical and phrasal stress correlate in BP is duration (MASSINI, 1991; BARBOSA, 2000; 2002; FONTES, 2013).

We assume in this study that longer durations of the phonetic syllables [ʃe] of the forms *cê/ocê/você*, as compared to the mean durations of the phonetic syllables of their tone units, correspond to stressed syllables, while shorter durations of the phonetic syllable [ʃe] of the forms *cê/ocê/você*, as compared to the mean durations of the phonetic syllables of their tone units, equate to unstressed syllables.

## OBJECTIVES

The aim of this research is to propose a new way to determine pronominal function by acoustically analyzing the distribution of the second person pronominal forms *cê/ocê/você* measuring the duration of the phonetic syllable [ʃe]. Our hypothesis is that there is a strong correlation between duration and tonicity, i.e. long duration corresponds to stressed syllables and short duration to unstressed (or clitic) syllables. The function of the pronominal form (subject or object) should then be decided based on those acoustic measures and not on a syntactic analysis.

## METHODOLOGY

133 occurrences of the pronominal forms *cê/ocê/você* were acoustically analyzed using *Praat*. 16 of them were examined separately due to their informational conditionings.

Then the analysis was conducted on forms that showed no informational constraints and that allowed measuring of the duration of the phonetic syllables [ʃe] in their syntactic functions.

This analysis focused on 117 examples.

The duration of the phonetic syllable of each form was measured and the values obtained were normalized using the *SGDetector* script (BARBOSA, 2006). The values were then compared to those of the normalized means of the syllables of the tone unit from which the form was extracted.

Statistical tests validated all data: Shapiro normality test indicates a non-normal distribution of the variables. Wilcoxon-Mann-Whitney test was then applied to the comparison of the normal duration of the syllable [ʰse] of each form in pre-verbal and post-verbal position and the normalized mean values of the tonal unit to which each syllable belongs.

## RESULTS

The results strongly support our hypothesis that suprasegmental forms allow different durations and, therefore, different functions for the same forms. In fact, values of normalized pre-verbal phonetic syllables [ʰse] are shorter than normalized means of the phonetic syllables of the tone unit to which they belong. Thus, we can conclude that pre-verbal phonetic syllable [ʰse] is atonic (or clitic). Normalized post-verbal phonetic syllables [ʰse] are longer than normalized means of the phonetic syllables of the tone unit to which they belong. Therefore, we can conclude that, in post-verbal position, phonetic syllable [ʰse] is tonic.

Over 90% of our sample confirm our hypothesis. The statistical analysis ( $p < 0.05$ ,  $\alpha=0.05$ ) strongly indicates that pre-verbal phonetic syllables [ʰse] are different from post-verbal phonetic syllables [ʰse].

This means that our data supports the hypothesis that the tonicity and atonicity of the forms *cê/ocê/você* is dependent on their duration: the three segmental forms can be either tonic or atonic. In other words *cê* can be atonic when its function is subject and tonic when its function is indirect object, and the same holds for the forms *ocê* and *você*. We were able to show that suprasegmental analysis is more reliable in determining the functions of second person pronoun forms than explications of morphosyntactic nature.