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# Analysis of intonational curve in speech of the character João Grilo, interpreted by Matheus Nachtergaele

Análise da curva entoacional da fala do  
personagem João Grilo, interpretado por  
Matheus Nachtergaele

Análisis de la curva de entonación en el habla  
del personaje João Grilo, interpretado por  
Matheus Nachtergaele

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## Abstract

**Introduction:** In Phonoaudiological practice, the accent is sometimes treated through intuitive knowledge or through medical professional experience. When working with actors, speech therapists can build on the segmental and suprasegmental lexical aspects present in speech, understanding these issues from the perspective of linguistic variation. **Objective:** Analyze dialectal intonation present in the speech of a character set in Sertão of Paraíba, played by actor Matheus Nachtergaele. **Method:** Segments have been selected from the movie *O Auto da Compadecida*. From the selected excerpts, four interrogative sentences have been extracted and split apart then analyzed according to behavior of the fundamental frequency, which means the evolution of F0 over utterance, using the software PRAAT 5.2.22. **Results:** In the analyzed sentences it has been observed varied melodic behavior, no characterization once different fundamental frequency patterns are alternated, depending on the viewpoint of stressed and post-stressed syllable at the end of statements. **Conclusions:** The findings of this study show that the behavior of the fundamental frequency, that is, the evolution of F0 over the stated question is characterized by an upward configuration at the end of sentence, even though the melodic contour drawings submit natural. It is clear the importance of knowledge about intonation dialectal for the speech-language pathology work with

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media professionals, leading them to a characterization more reliable, as the accent represented.

**Key-words:** speech; voice; linguistics; professional practice.

### Resumo

**Introdução:** Na prática fonoaudiológica, o sotaque é, às vezes, tratado por meio do conhecimento intuitivo ou da própria vivência profissional. No trabalho com atores, o fonoaudiólogo pode tomar como base os aspectos lexicais, segmentais e suprasegmentais que estão presentes na fala, entendendo esses aspectos sob a perspectiva da variação linguística. **Objetivo:** Analisar a entoação dialetal da fala de um personagem do sertão da Paraíba, interpretado pelo ator Matheus Nachtergaele. **Método:** Foram selecionados trechos de fala do filme *O Auto da Compadecida*. Dos trechos selecionados, extrairam-se quatro frases interrogativas que foram segmentadas. Em seguida, procedeu-se à análise do comportamento da frequência fundamental, isto é, a evolução da F0 ao longo do enunciado, utilizando o software PRAAT 5.2.22. **Resultados:** Nas frases analisadas, observou-se comportamento melódico variado, não havendo uma única caracterização, uma vez que diferentes padrões de frequência fundamental se alternam, dependendo do ponto de vista da sílaba tônica e da pós-tônica no final dos enunciados. **Conclusões:** Os achados deste estudo mostram que o comportamento da frequência fundamental, isto é, a evolução de F0 ao longo do enunciado interrogativo caracteriza-se por uma configuração ascendente em final de frase, embora os contornos melódicos apresentem desenhos singulares. É nítida a importância do conhecimento sobre entoação dialetal para o trabalho fonoaudiológico com profissionais da mídia, conduzindo-os a uma caracterização mais fidedigna, conforme o sotaque representado.

**Keywords:** fala; voz; linguística; prática profissional.

### Resumen

**Introducción:** En la práctica fonoaudiológica, el acento se trata a veces por medio del conocimiento intuitivo o experiencia profesional. En el trabajo con los actores, el fonoaudiólogo puede basarse en los aspectos léxicos, segmentares y supra-segmentares que están presentes en el habla, comprendiéndolos desde la perspectiva de la variación lingüística. **Objetivo:** Analizar la entonación dialectal del habla de un personaje de las tierras del interior de la Paraíba, interpretado por el actor Matheus Nachtergaele. **Método:** Se seleccionaron los tramos del discurso de la película *El Auto de la Compadecida*. De los tramos seleccionados, se extrajeron cuatro oraciones interrogativas que fueron repartidas. En seguida, se procedió al análisis del comportamiento de la frecuencia fundamental, es decir, la evolución de la F0 a lo largo del enunciado, haciendo uso del software PRAAT 5.2.22. **Resultados:** En las frases analizadas se observó comportamiento melódico variado, no existiendo una caracterización única, ya que diferentes patrones de frecuencia fundamental se alternan, de acuerdo con el lugar de la sílaba tónica y de la post-tónica en el término de los enunciados. **Conclusiones:** Los resultados de este estudio muestran que el comportamiento de la frecuencia fundamental, es decir, la evolución de F0 a lo largo del enunciado interrogativo, se caracteriza por una configuración ascendente en el final de la frase, aunque los contornos melódicos muestren diseños únicos. Es visible la importancia del conocimiento sobre entonación dialectal para el trabajo fonoaudiológico con profesionales de los medios de comunicación, conduciéndolos a una caracterización más cercana de la realidad, como el acento representado.

**Palabras clave:** habla; voz; lingüística; práctica profesional.

### Introduction

The actor's work requires him to do a little of everything: cinema, television, theater, dubbing, production, directing, among others. Because of the activities demand, the actors should include in their routine a professional recycling. In Brazil, the recycling is generally offered by more experienced professionals that are willing to pass their

knowledge to the younger generation, or by initiative of a director who seeks to invest in his group of artists. However in large urban centers of the country, due to the availability of courses offered, there is probably a tendency to systematic investments in a continued education.

On the other hand, the cast's vocal preparation by a speech-language pathologist still it

is not frequent, even though in Brazil, the voice and speech were always linked to the oratory or califasia study, recitation or musical studies more oriented for the metric, the rhythm, the vocalize and intonation<sup>1</sup>.

In turn, in the ancient theater, the Greeks gave to the voice a great importance, not only as projection, but as modulation, timbre and other components of human sound. Greek actors, it seems, worked intensely the voice, the word, training female and male timbre. Talking about “spreading the voice” was the advice of Aristophanes<sup>1</sup>. In this golden period of Greek theater, 5th century b.C., the woman could not represent, leaving to the actor the interpretation of female roles. In contemporary times, with regard to the construction of the characters, the actor must make a detailed study of all the elements that contribute to its characterization. And must be concerned, mainly, with the linguistic characteristics found in the speech of characters, which could be specific to certain regions of the country, or even foreign.

The actor is the professional which transmits to another the written work. It is, roughly, a co-author, since it can give life to characters from written pieces<sup>2</sup>. In order to give veracity to the text, the interpreter must, in rehearsal periods, do the reading aloud and thereafter form “images” that can help with the development of the character. Thus, “it is necessary that what is spoken be seen, be drawn and that what you see contains sounds and rhythms”<sup>2</sup>. In other words, the vocal and physical action legitimizes the materialization of the piece.

In addition, it is the vocal plasticity expressed in the speech of the actor through emphases, pauses, melodic contours, articulation, speed, duration, cadence, to be the most accurate representation possible. “Usually, people have the impression that to interpret is simple, such the ease with which the interpreter is presented. Naturalism does not mean trivialization or easiness. To get to the point of steadying his speech on stage, the actor rehearsed the text thoroughly, experimenting, until making his those words”<sup>2</sup>. Thus, actor and text will form an indivisible whole, passing to the public the desired intention.

A verisimilar interpretation of a character requires of the interpreter knowledge on the linguistic community on which it is portrayed its history, its cultural evolution, with the purpose of valuing what is peculiar to each group, without

any intention to impose standards or refute the speakers history<sup>3</sup>.

When the character to be built is characteristic of a region that is outside the reality of the actor, he often runs the risk of not following faithfully the peculiar speech of that region<sup>4</sup>. This lack of familiarity with the composition of the character can be transformed into reproach by the viewer.

It is known that speakers express themselves through various accents that will vary according to the geographical region and the linguistic community of each individual. It is understood that by accent the articulatory aspects (segmental and suprasegmental) that characterize the differences in pronunciation from a particular mode, social or dialectal to speak a language<sup>5</sup>.

Different approaches on the role of the intonation in dialectal variation, in various languages, indicate that this parameter is of prime importance in the clearer perception of dialect varieties<sup>6,7,8</sup>.

While taking as reference suprasegmental aspects (intonation, intensity and duration) involved in speech, the professional who works with different media types like theater, television or movies, being oriented on the importance of such prosodic elements in the work of interpretation, will probably have more subsidies to represent a speech that is plausible.

From this assumption, in watching the movie *O Auto da Compadecida*, interpreted by Matheus Nachtergaele, it was decided by the analysis of the intonation dialectal concerning the speech about his character in the Sertão of Paraíba. This actor is not northeastern, but appropriates very well the linguistic regional markers, giving credibility to the types he interprets, in particular from an accent’s point of view. This research is important so that, from this performance model, the analysis of melodic behavior can provide subsidies to speech therapy professionals working with actors, favoring the acquisition of speech patterns that are representative of characters with similar speakers.

In Speech therapy practice, the accent is sometimes treated by means of intuitive knowledge or their own professional experience. However, the speech therapist can take as basis the lexical phenomena, segmental and suprasegmental that are behind the speech, understanding these phenomena from the perspective of linguistic variation. This approach, the preparation of the actor’s vocalization on issues involving dialectal prosody, probably

will be avoided in the construction of stereotypical discourse.

The purpose of this research is to analyze the dialectal intonation present in the speech of a character set in Sertão of Paraíba, played by the actor Matheus Nachtergaele. More specifically, it describes the behavior of the fundamental frequency, acoustic parameter responsible for perception of melodic modulations in interrogative sentences from the speech of this character.

## Material and Method

The study area was the Sertão of Paraíba, from where the character is originated, and which is part of the movie plot *O Auto da Compadecida*. This is a case study, with the variables: intonation and frequency.

Speech passages were selected from the movie *O Auto da Compadecida*, play written by Ariano Suassuna, adapted and directed to the movies by Guel Arraes, where Matheus Nachtergaele interprets a northeastern: the character João Grilo.

Matheus Nachtergaele was born in Sao Paulo in 1969. He is the son of the Belgian Jean-Pierre Nachtergaele, one of the founders of Traditional Jazz Band. Matheus is a stage actor. Gained notoriety for his work in the early 90's with Vertigo theatre company, under the direction of Antonio Araujo, and had their work recognized for his performance in the award-winning show *Livro de Jó*.

He debuted on television in the miniserie *Hilda Furacão* playing the character *Cintura Fina*. The success brought the acting as protagonist in another miniserie that were turned into the telefilm *O Auto da Compadecida*, based on the work of Ariano Suassuna, where he played the role of João Grilo. This performance earned him the grand Prix National Cinema as best actor. Since then, he has made numerous contributions to the national theater and in the year of 2008 debuted as director.

Regardless of not being Northeastern nor having family roots but with great appropriation of accent, especially with regard to melodic modulations, the character João Grilo, played by Matheus Nachtergaele, was chosen as object of study for this research.

From the selected passage, there were extracted four interrogative sentences from the character

João Grilo. The choice for the interrogative sentences analysis was based on studies of intonation dialectal, establishing comparisons between declarative and interrogative modes, observing in this, a greater diversity of melodic contours, especially, at the end of statements. The sentences chosen were segmented to, next, be analyzed by behavior of the fundamental frequency, i.e. the evolution of F0 throughout the statement, using the software PRAAT 2.5.22 that allowed us to generate, from a sound file, a spectrogram. The program enables the analysis of suprasegmental parameters (frequency, duration, intensity), synthesizing and manipulating the recording files of voices.

As a parameter of comparison with the speech of the character João Grilo, it was used a study that analyzes the speech from the State of Paraíba, Brazil, from the point of view of modal intonation in order to check how much both are similar<sup>9</sup>.

## Ethical Considerations

In the case of a study from secondary data, available on Internet to public domain, not causing harm and/or damage to the health of individuals, it is not necessary to use an Informed Consent and the subsequent approval of project Research and Ethics Committee.

## Results

Four sentences spoke by character João Grilo were chosen at random, taking only as criterion the interrogative modality. Below, we analyze the behavior of melodic curves of the selected sentences. The description is based on observation visual-auditory development curve of an interrogation intonation, establishing a trend of dialectal behavior

In the sentence “Three days and three nights?” corresponding to figure 1, it is observed that the melodic contour features a high attack that will decrease along the enunciation, reaching a low level in final tonic syllable, and finishes with a drop of the fundamental frequency. It should be noted that the existence of unaccented vowels in final position of enunciation causes a slight drop in F0, as expected.

In the phrase “And didn’t you feel hungry?” corresponding to figure 2, it is observed that the melodic contour begins with high attack, which decreases along the statement, returning to raise oxytone word level, characterizing a melodic configuration of interrogative speech.

In the phrase “When did you have your pet?” corresponding to figure 3, the melodic contour begins with high attack, which stands a rise on the final tonic syllable, reaching its highest point on pos-tonic.

In the sentence “What exasperation is this?” corresponding to figure 4, it is observed a high attack and fall of F0, with the final tonic syllable in a melodic bass level, followed by ascending pos-tonic..

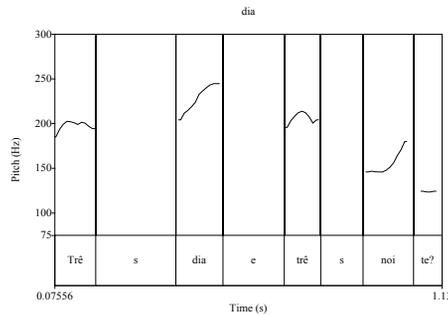


Figure 1 – Phrase Three days and three nights? In Portuguese (Brazil).

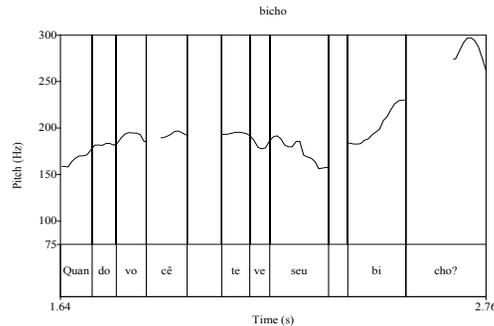


Figure 3 – Phrase When did you have your pet? In Portuguese (Brazil).

## Discussion

It is unquestionable fact that the intonation, when compared to other prosodic parameters, plays a key role in identifying the dialectal characteristic. It is also known that a linguistic variety differs from another by segmental and lexical aspects. This means that the perception of the listener, as far as the accent, is formed from suprasegmental aspects (intonation, duration and intensity) as well as the characterization of vowels and consonants.

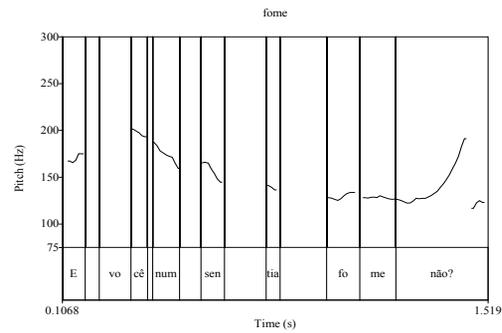


Figure 2 – Phrase And didn’t you feel hungry? In Portuguese (Brazil).

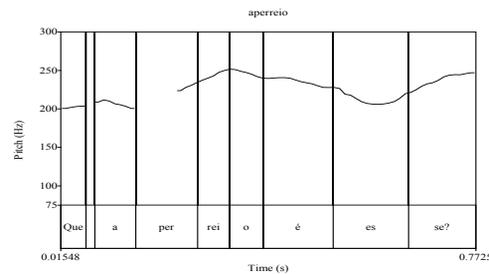


Figure 4 – Phrase What exasperation is this? In Portuguese (Brazil).

Regarding this aspect, in Brazil, according to the literature, the behavior of vowels pre-tonic lays down the dividing line between the dialects of the north, which elect the open realization of medium vowels, and of the south, which, preferably, as closed<sup>10</sup>.

Register also that it is not an easy task to investigate suprasegmental parameters present in the speech, which leads us to reflect on the proper methodology for studies of this type. In this work, the limitation occurred in the selection of phrases spoken by character João Grilo. Because even having as criterion interrogative sentences, we chose sentences with similar morphosyntactic characteristics in order to make feasible the visual-auditory analysis of the melodic contours extracted, taking as reference analogue study<sup>9</sup>. It is worth pointing out that the decision to maintain the selection criterion of is related to the objective of the study regarding the choice of the method of analysis of melodic contours.

The sample of contours analyzed was limited to four sentences; however, this was enough to establish a trend of melodic pattern extracted from

the speech of the character João Grilo, played by Matheus Nachtergaele

The identification of geographical origin proves to be, primarily, at the end of the statements, as the trace of melodic contour<sup>9</sup>. In the interrogative utterances, the characteristic configuration is the maintenance of melodic curve high over the wording. The declarative tend to show a downward curve.

In Interrogative sentences, it is common to appear a setting up at the end of sentence, notwithstanding with distinct melodic contours, in accordance with the lexical accents (oxytone, paroxytone and proparoxytone)<sup>7,8,9</sup>. In this study, the melodic contours correspond to the first two sentences constituents of corpus corroborate the literature, i.e., the statements contain an elevation of F0.

In the study on intonation carried out with native speakers of the city of Joao Pessoa, in sentences initiated by interrogative pronouns (when, who), the pattern is characterized by a high melodic attack and fall of F0 over the wording<sup>9</sup>. There are, however, some variations in relation to the behavior of final pos-tonic syllable in order to perform, sometimes, slightly higher than the final tonic.

In this work, in the phrase: "When did you have your pet?", the example of the above mentioned study, the statement begins by interrogative pronoun and finishes by paroxytone word. The melodic standard is also characterized by high attack and fall of F0, followed by elevation of tonic and final pos-tonic. Similar behavior is recorded in the phrase: "What exasperation is this?", but the distinction is in the behavior of the final tonic syllable that presents decreased slightly, while the final pos-tonic is at a high level.

The comparison of these melodic contours, based on the findings of another study on intonation dialectal<sup>9</sup>, confirms the investment in the composition of the character and the credibility of the interpretation performed by actor Matheus Nachtergaele regarding the accent from the State of Paraiba, Brazil.

Even though the phonetic and phrasal contexts are not the same, note that it is possible to establish a closer relationship between the melodic contours characteristic of distinct listed. This is feasible, because the number of intonation dashes dialect is restricted; allowing speakers to understand both what is common to their own linguistic community

as it shows being distinct from another regional variety<sup>8</sup>.

The variation in the behavior of the fundamental frequency, even if it is mild, is essential for the identification of the geographical origin of the speaker, because the melodic contours characterize different patterns for the types of issues studied in different speakers<sup>9</sup>.

Even in speech actuated, in context of play role, the variations of the fundamental frequency and amplitude establish a relation with the communicative intention behind each vocal expression. The intentional clues are permeated by intonation characteristics identifying the dialectal origin. This means that the credibility of the interpretation of a text also has the sieve of dialect marks.

The curves of the intonation, in interrogative sentences, provide qualitative data that may allow an interpretation of the intonation characteristics owned by the speaker<sup>4</sup>. The analysis of these curves is important, because the intonation has a key role in the characterization of dialects.

## Conclusion

The findings of this study show that the behavior of the fundamental frequency, i.e. F0 developments along the interrogative statement is characterized by an upward configuration at the end of the sentence, even though the melodic contours presents peculiar drawings.

The dialect marks presented in the speech of the character played by Matheus Nachtergaele became evident in the description of the intonation curves of the listed started by interrogative pronouns in which we can see, at the end of the sentence, the admission of two intonation patterns: (i) tonic syllable and pos-tonic high; (ii) tonic syllable, situated on a low level, followed by post-tonic upward.

It can be concluded that the melodic contours found, shows that the variation in the behavior of the fundamental frequency is sharper at the end of the sentences. However, the similarities between melodic curves described are enough to establish a trend of standard dialectal studied.

In view of the importance of knowledge about dialectal intonation for the speech-language practice regarding the work of theatrical interpretation, the results suggest the need for future



studies, contemplating a sample with speakers from different regions of the country.

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