

The pace of the delivery of speech in contexts with the preposition ‘de’ in BH Portuguese

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Abstract

The aim of this paper is to analyze speech and articulation rates in prosodic realizations in the linguistic context controlled by the preposition “de” (“of”) that links words. The interference of these rates and context on the elision/non-elision of the segments (C) V (C) was analyzed. These data were taken from POBH corpus, standard Brazilian Portuguese from Belo Horizonte (BH).

1. Introduction

The objective of the project “A CONSTRUÇÃO DE UM DIALETO: o “mineirês” belo horizontino (The Construction of a Dialect: the “mineirês” from Belo Horizonte) is not only to identify and describe the current dialect of Belo Horizonte (MG) but also to explain it based on socio-historical and linguistic data. One of the phonological processes to be considered in “mineirês” from Belo Horizonte is the elision of syllables (considered as one of the characteristics of this dialect) that is related to and activated by the speech dynamics: duration, pause, stress and rhythm.

It is analyzed here the kinds and the frequency of elision in contexts with the preposition “de”, which links content words and somehow, controls the way of expressing these phonetic realizations. The hypothesis is that the elision of not only the clitic “de” but also the syllables around it represents an adjustment to the rhythm (together with other non-linguistic factors) which is being implemented by the speaker.

The aim of this research is to describe and analyze the prosodic realizations as a consequence of the preposition “de” in standard Brazilian Portuguese from Belo Horizonte. The data were taken from POBH corpus (see Methodology).

2. Related theoretical approaches

Mattoso Câmara (1970 p.53) [1] claims that there is a stress scheme for each word. A phonological word has only one stressed syllable with the pre-stressed syllables being stronger than the post-stressed ones. Mattoso proposed a numerical system for the word in which the pre-stressed syllables would have the number 1, the post-stressed is equals to number 0 and the stressed syllable would be number 3 as the following scheme: ...(1)+3+(0)+(0)+(0). The dots indicate an indefinite number of pre-stressed syllables and the parentheses indicate the possibility of occurring either several pre-stressed syllables or post-stressed syllables or even none. This means that the stress may be on the last, the penultimate, the antepenultimate or rarely on the fourth syllable. In a sequence of phonological

words without pause the stressed syllable that comes before the last word drops to number 2. According to this stress scheme the juncture is opposed to the lack of juncture as in: “appropriate age/ ability”

hábil idade /abilidadi/ e habilidade /abilidadi/
20 130 11 130

Mattoso Câmara (1970 p.53-54) [1] observes about the clitics: “unstressed particles do not have the status of a phonological word” and “another particularity of unstressed particles, when they are pre-stressed, is the possibility of acquiring intensity 2”. Therefore the clitics do behave as phonological words but only in two situations: due to pause or due to stylistic motivation that is the intention of emphasizing the particle. Bisol (1996 p.72) [2] claims the existence of two types of clitics: one that is dependent and another one that is independent. Referring to Mattoso Câmara she proposes the interpretation of an independent clitic as an independent phonological word that composes with the next content word only one clitic group according to Nespor and Vogel’s definition (1986) [3]. Another important aspect to be considered is the OCP (Obligatory Contour Principle) that states that adjacent identical elements (in different levels) are prohibited as proposed by Leben (1973) [4], McCarthy (1986) [5]. Alkmim & Gomes (1982, p.48-51) [6] analyze different cases of syllable elision in word boundaries and the appropriate or non-appropriate conditions to this by quoting examples like: “leite de coco” > “leidicoco” (“coconut milk”), “sabe beijar” > “sab:eijá” (“know how to kiss”) where the final syllable or unstressed vowel elide when they are followed by another similar syllable or vowel.

As to the influence of the speech and articulation rates in the speech rhythm and the phonetic realizations this paper is based on studies such as Laver (1994) [7], Meireles (2001 e 2007) [8] [9], Barbosa (2006) [10], Viola (2006) [11] among others. According to these studies the speech total time is the total time of the text duration in seconds, the speech rate is obtained by dividing the total number of syllables produced by the total duration of the text, that is, speech time in syllables/seconds; the articulation time is calculated by subtracting the total duration of the pauses from the total duration of the text in seconds and the articulation rate is estimated by dividing the total number of syllables produced by the articulation time in syllables/seconds. The VV unit will be used rather than the syllable due to its temporal stability and homogeneity in the phrase stress according to Barbosa (2006) [10].

3. Methodology

The POBH *corpus* (Magalhães, 2000) is comprised of recordings made with resources of LABFON (Phonetics Laboratory FALE/UFMG). The recording content has three features each lasting one hour as follows: dialogue between the interviewer and the subject, formal speech (the subject speaks alone) and dialogue between two subjects. The subjects are five graduate men and five graduate women from each age group namely 25 to 35 years old, 36 to 55 years old, 56 years old and over. All of them were born and grew up in Belo Horizonte without leaving the city for more than one year. The

analyzed data for this paper come from a three-hour recording (POBH) of one male subject's formal speech from each age group. There were 239 contexts in which the preposition "de" occurred. The acoustic analyses and the speech and articulation rates were made by using the software Praat 4.6.35 with the resources of LABFON (Phonetics Laboratory FALE/UFMG).

4. Results, examples, discussion

According to table 1 the "default" in the linguistic context is the non-elision: 179 out of 239 occurrences or 74.89 %. The preposition "de" was elided only in two cases.

Age group	Syllable drops before "de"	"de" drops	Previous syllable and "de" drop	Syllable does not drop				Total of expressions
				Pause	Repetition of "de"	Stress of "de"	"Default"	
56 anos em diante	02	01	02	-	03	-	32	40
36 a 55 anos	05	-	-	12	07	-	102	126
24 a 35 anos	08	-	-	05	14	01	45	73
Total	15	01	02	17	24	01	179	239
Total em %	6,28	0,42	0,84	7,11	10,04	0,42	74,89	100

TABLE 1 Phonetic realizations of the expressions linked by the preposition "de" and its contexts

Four examples for each subject are shown below: two with the elision and two with without elision. The acoustic images show the points where the elision occurs. The sentences were literally translated.

The pause () blocks the possibility of elision by the OCP:
 HSQ (18:14)1 (...) e mesmo buscar se houver **possibilidade () de fazer** ((possibilidadži () džifaze)) o curso no exterior (...)
 HSQ (18:14)1 (...) and even search for if there is a possibility () of attending the course abroad (...)

The repetition of "de" blocks the possibility of elision by the OCP:
 HSQ (19:02)1 (...) inclusive eu tenho muita **vontade de de fazer** ((võtadži dži džifaze)) talvez quem sabe um doutorado fora () fora assim no exterior (...)
 HSQ (19:02)1 "(...) by the way I would really like to attend who knows a doctorate abroad (...)"

The syllable before the preposition "de" drops due to the OCP:
 HSQ (06:42)1 (...) a prova que todos sabemos assim que num () num diz muito () muita coisa né é é apenas uma ferramenta de de pra se avaliar mas que num denota a verdadeira **capacidade do aluno** ((capacidadualu:nu)) enfim sua a sua capacidade de discernimento ((capacidadidiscernimentu)) sobre determinados (...)
 HSQ (06:42)1 "(...) the test as we all know does not say much it is only a tool to evaluate but does not show the student's knowledge or discernment (...)"

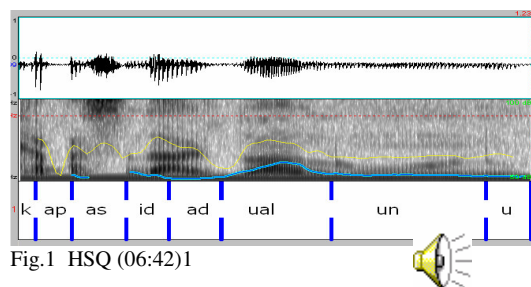


Fig.1 HSQ (06:42)1

The syllable before the preposition "de" drops due to the OCP:
 HSQ (22:40)2 (...) então eu sou a favor da redução **da jornada de trabalho** ((jornadžitrabalhu)) () e: () a redução eu acho que () ajudaria bastante (...)
 HSQ (22:40)2 "(...) so I'm in favor of reducing work hours and the reduction I think would help a lot (...)"

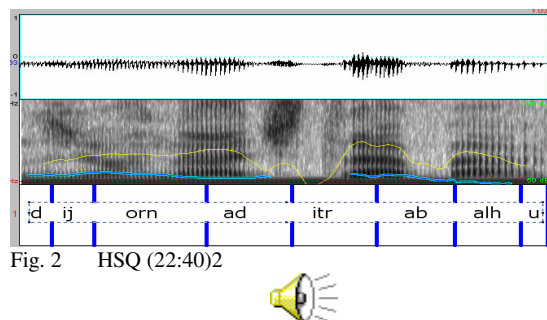


Fig. 2 HSQ (22:40)2

The syllable before the preposition “de” drops due to the OCP:

CPF (06:05)1 (...) realmente cê vai tê que usá o seu raciocínio a sua capacidade de pesquisar ((capacidađzipesquisá)) e **capacidade de se exprimir** ((capacidađzsesprimi)) basicamente (...)

CPF (06:05)1 “really you will have to use your reasoning and your knowledge of researching and expressing basically (...)”

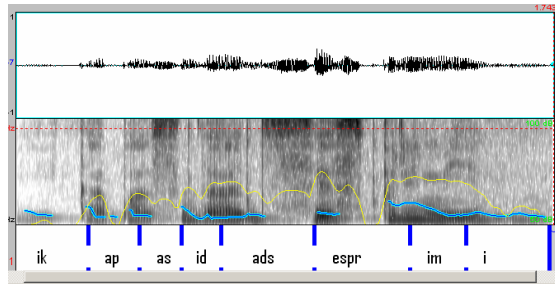


Fig. 3. CPF (06:05)1

The syllable before the preposition “de” drops due to the OCP:

CPF (12:53)1 (...) a área clínica... ne... basicamente consultório... eh uma área... **do mercado de trabalho** em Belo Horizonte ((merkadzitrabahuembelhorizonti)) muito saturado (...)

CPF (12:53)1 “(...) clinic field basically office... a field... of work marketing Belo Horizonte very crowded (...)”

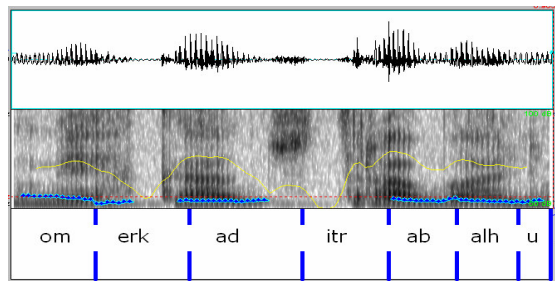


Fig. 4 CPF (12:53)1

“Default” occurrences (the syllable does not drop) even in the OCP context:

CPF (09:44)2 (...) então () a redução da **jornada de trabalho** é na verdade uma coisa() em parte ne () um em parte utópica (...)

CPF (09:44)2 “(...) so the work hours reduction is actually something kind of kind of utopian (...)”

“Default” occurrences (the syllable does not drop):

CPF(11:20)1 (...) eu sabia que a de que eu veria...ne... que eu estudaria... **num curso de psicologia**...por outro lado(...)

CPF (11:20)1 “(...) I knew that I would see I would study in a psychology school.... on the other hand (...)”

Elision of the preposition “de”:

RGD (11:10)1 (...) e aconteceu que exatamente a **prova de latim** ((provalatim)) coincidia () aí então eu fiz uma preferência que foi pela Faculdade de Direito ((faculadadžireitu)) (...)

RGD (11:10)1 “(...) and it happens that exactly the Latin test coincided so I decided for the Law School (...)”

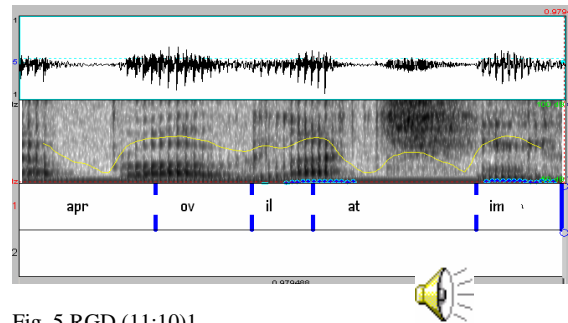


Fig. 5 RGD (11:10)1

The previous syllable and “de” itself drop in the OCP context:

RGD (11:31)1 (...) bem eu fui pela **Faculdade de Direito** ((faculadadžireitu)) () e estou () estou na profissão realmente ainda militando há quarenta e três anos (...)

RGD (11:31)1 “(...) well I studied at the Law School and I’ve been working for forty-three years (...)”

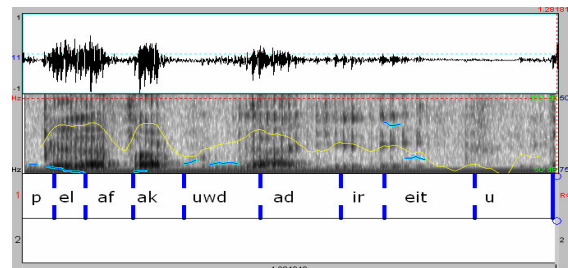


Fig. 6 RGD (11:31)1

“Default” occurrences (the syllable does not drop):

RGD (01:05)1 (...) então eu me considero **em termos de formação escolar** ((termudziformasãu)) **fruto de uma /frutudžiuma/** escola pública de uma escola pública bastante diferente (...)

RGD (01:05)1 “(...) so in terms of schooling I consider myself a product of a public school a very different public school (...)”

“Default” occurrences (the syllable does not drop) even in the OCP context:

RGD (02:13)2 (...) assusta tanto que **dá vontade de tentar ver** ((vontadžidžitentar)) se eles ficam quietos pela própria violência (...)

RGD (02:13)2 “(...) it scares so much that we feel like trying to see if they stay quiet by the violence itself (...)”

The speech and articulation rates for “default” sentences and for the elision cases for each subject are shown in TABLE 2

Occurrences: 1. <i>Elision</i> 2. <i>Default</i>	Speech total time (sec)	Articulation total time (sec)	Speech rate unit VV/sec	Articulation time unit VV/sec
1. HSQ (18:14)1	5.626	4.954	4.087	4.642
1. HSQ (19:02)1	6.998	5.840	4.572	5.479
2. HSQ (06:42) 1	20.825	16.843	4.033	4.987
2. HSQ (22:40)2	10.413	6.262	3.361	5.588
1. CPF (06:05)1	9.847	6.999	3.858	5.428
1. CPF (12:53)1	9.816	6.662	4.074	6.040
2. CPF (09:44)2	9.976	6.459	3.107	4.799
2. CPF (11:20)1	8.660	5.394	3.810	6.117
1. RGD (11:10)1	9.179	7.709	4.357	5.188
1. RGD (11:31)1	8.490	6.901	4.240	5.216
2. RGD (01:05)1	9.909	7.944	4.339	5.412
2. RGD (02:13)2	6.545	6.063	4.125	4.452

TABLE 2: The speech and articulation rates in “default” and elision cases

This analysis is considering the mean values of the speech and articulation rates found by Barbosa [10] and Viola [11] for Brazilian Portuguese, that is, 3.9 to 5.9 VV units per second. Table 1 shows that the subject HSQ, in elision cases, presents a speech rate from 4.0 to 4.5 and an articulation rate from 4.6 to 5.4. In “default” cases, the speech rate varies from 3.3 to 4.0 and the articulation rate from 4.9 to 5.5. Contradicting the expected, articulation rate in the “default” occurrences is higher than in the elision cases. The difference between these rates indicates that the subject uses a lot of pauses to compensate a high articulation speed for a low speech velocity.

The subject CPF presents, in the elision cases, a speech rate from 3.8 to 4.0 and an articulation rate from 5.4 to 6.0. In “default” cases, the speech rate varies from 3.1 to 3.8 and the articulation rate from 4.7 to 6.1. It may be said that his behavior is expected, i.e., his speech and articulation rates are higher in the elision cases than in the “default” cases.

The subject RGD presents, in the elision cases, a speech rate from 4.2 to 4.3 and the articulation rate from 5.1 and 5.2. In “default” cases, the speech rate varies from 4.1 to 4.3 and the articulation from 4.4 to 5.4. It may be noticed that the speech rates in the elision and in the “default” cases are close to each other and the articulation rate is higher in the elision occurrences than in the “default” ones, meaning that this subject tends to use more pauses in the elision cases.

5. Conclusions

The data indicate that the speaker has a great freedom in the phonetic realization. Even in contexts with strong possibilities of elision rules application these rules may not occur as in the cases where the OCP does not apply. Thus the speaker may use varied forms so that the segment loss does not occur. Among these forms there are the pauses between syllables that undo the adjacency between the segments, the word repetition and the stress as a way of emphasizing and indicating a clitic group. A rhythm that tends to be syllabic or emphatic indicated by a variation in the articulation rate

moments (intention to emphasize the particle) also blocks the elision possibility. It is observed that some elision realizations in some dialects become caricatural and even folkloric thus characterizing a speech feature of a community only because they are more noticeable or marked (according to the idea of marked and non-marked in linguistics) than another realization. Therefore the data did not corroborate the strong tendency to the elision of the units (C) V (C) in the analyzed linguistic context. However, a study about the distribution and distance between the stressed syllables may contribute to this study.

6. References

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