The emergence of some phonological patterns in the verbal morphology in Brazilian Portuguese

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INTRODUCTION

This research aims to analyze the emergence of some phonological patterns in the verbal morphology of Brazilian Portuguese (BP) which involve segmental loss.

1) Reduction in post tonic nasality of the forms *aram*, *eram*, *iram* and *avam* (*falaram* [[faˈlaɾãu] → [faˈlaɾu], falavam [falavãu] → [falavə] 'they spoke', but not *faláramos* [falaɾamʊs] → *[falaɾamʊ] 'they had spoken');

2) Reduction of post vocalic –s of the form *mos* (*chegamos* [ʃegamʊs] → [ʃegamʊ] 'we arrived');

3) Reduction of falling diphthong of the form *ou* (*chamou [ʃamow]* → [ʃamo] 'he/she called'.

THEORY ASSUMPTIONS

Usage-Based Phonology [Bybee, 2001].

Exemplar Models [Pierrehumbert, 2001].

The main point to be addressed is the role played by type and token frequency in the cases to be analyzed.

It will also be shown that a network model is fully adequate to handle elegantly the case studies we have considered.

METHODOLOGY

1) Brazilian Portuguese traditional grammars to identify regular or prescriptive phonological patterns.

2) Selection of cases to be investigated.

3) Three interviews taken from the Projeto Mineirês (www.letras.ufmg.br/mineires).

4) Frequency effects: Projeto Aspa (www.projetoaspa.org).

HYPOTHESIS

Segmental loss is closely related to the prosodic organization of the language at all levels. Thus segmental loss affects mental representations.

It will be argued that prosodic reorganization follows from frequency effects observed in BP.

However, frequency effects are subjected to structural factors and also to general usage of the language. This predicts that there might be sets of words that do not undergo the expected sound change.

RESULTS

General data	
Subjects	3
Words in corpora 1	9,800
Words in corpora 2	9,764
Words in corpora 3	12,188
Total number of words	31,752
Verbs listed	310
Verbs analyzed	194

FIG. 1

CASE STUDY 1 – (V)ram and ava

rate of reduction
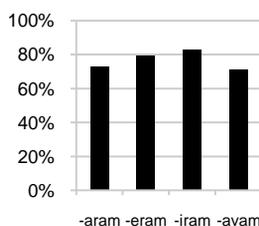
FIG. 2

Verb ending	Token frequency
-aram	446,412
-eram	266,609
-iram	127,528
-avam	130,473

FIG. 3

All conjugations are affected by the phenomenon at high rates.

All patterns present high token frequency [Bybee, 2001].

The pattern *-êramos,* which does not present reduction, has the lowest token frequency.

Reduction of postonic nasal vowels might be leading the phenomenon.

Verb ending -avam reduces to [və], not to [vu]. We argue that this happens because [və] presents a higher type frequency, acting like a magnet [Phillips, 2001].

Pattern	Type frequency
və	1,696
vʊ	57

FIG. 4

CASE STUDY 2 - amos

rate of reduction
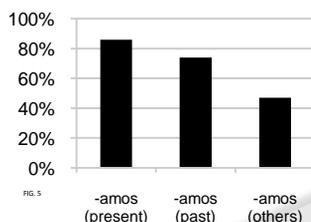
FIG. 5

Verb ending	Token frequency
-amos (past, present)	20,2609
-amos (others)	19,258
-êramos	5,679

FIG. 6

The present and the past (homophones) present high rate of reduction.

Other cases (verbal ending *íamos)*, which present lower token frequency, also present less rate of reduction.

The motivation for segmental reduction might be the loss of the morphological category of plural [Cristófaro-Silva et al, 2008] and a direction to a CV syllable.

CASE STUDY 3 – ou

Verb ending	Token frequency
ou	2,002,332

FIG. 7

High and low frequency verbs are affected by the reduction.

Regular and irregular verbs, too.

There is a general tendency of diphthong reduction (also observed in nouns, 3).

This reduction is phonetically motivated.

CONCLUSIONS

The results indicate that the investigated cases of phonological reduction apply to specific morphological classes.

This suggests that morphology is organized in a network fashion [Bybee 2001, Pierrehumbert, 2001].
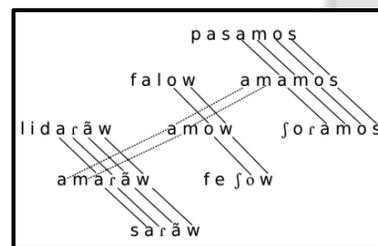

FIG. 8

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