

## Extreme high frequency, segment deletion and chunking: a study of emerging inflected pronouns in Brazilian Portuguese

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Research in usage-based theory has shown high frequency words and phrases are most prone to phonological and semantic reduction, which may in turn become part of a language's morphology via the process of *chunking* (Bybee 2010, 1985, Bybee et al. 1995, Hopper & Traugott 1993). The present paper reports on the extreme reduction of the prepositions *para* ['pa.rə] 'to' and *de* [dʒi] 'of' in the high frequency context of preposition plus oblique personal pronoun phrases in the Belo Horizonte dialect of Brazilian Portuguese.

Due to its high token frequency, the full form ['pa.rə] had already been reduced in spoken language to ['pra]. However, in the extremely high frequency phrases made of preposition and oblique pronouns, the preposition has been reduced even further, yielding [pr] or even [p] for all persons except 1S. Likewise, the proposition *de* reduces from the already shortened [dʒ] to extremely reduced [d] in equally high frequency contexts. Because the pronouns show highly reduced form themselves, the result of this new sound change are pronominal chunks made of preposition and oblique forms of pronouns. The table below illustrates the forms resulting from the segment deletions .

Person	Direct pronoun	With <i>para</i>	With <i>de</i>
2s	você [se]	para você > [pro'se]	de você > [do'se]
3s	ele [eli] / ela ['elə]	para ele/ela > [preli] / [prelə]	dele [deli] / dela [delə]
1p	a gente [a'zêti]	para a gente > [pra'zêti]	da gente > [da'zêti]
2p	vocês [ses]	para vocês > [pro'ses]	de vocês > [do'ses]
3p	eles [eli's] / elas ['eləs]	para eles/ elas [preli's] / [preləs]	[des] / [deləs]

The interplay between sound deletion in unstressed syllables due to high frequency and the similarly high frequent collocation of preposition and pronoun may be giving rise to a new set of inflected prepositions - bearing a resemblance to the system found in Celtic languages (Ball & Müller 2009). In addition, given the decline of the use of clitics in Brazilian Portuguese (Cook 1997, Ramos 1997, Lopes 2008), the combination of reduced prepositions and reduced pronouns may signal the emergence of a new paradigm of case distinctions coded by prefixes.

A corpus study was carried out to investigate the occurrence of reduced forms in the dialect. Collocations of prepositions *para* and *de* plus pronouns were examined in a spoken corpus of spontaneous interactions of speakers of the Belo Horizonte dialect of Portuguese (Raso & Mello 2012). Each token occurrence was analyzed acoustically using Praat (Boersma 2001) with respect to the following variables: vowel deletion, consonant deletion and syllable deletion in both preposition and pronoun.

Results suggest that the sound deletion is already advanced in the dialect, especially for the preposition *para*. The extremely reduced version of *para* to [p] is confined to the most frequent pronoun used in spoken discourse, that is, 2S. As a consequence, an uncommon consonant cluster is produced (e.g, [pse]). These data corroborate previous accounts of vowel reductions leading to new consonant clusters in the dialect (Napoleão de Souza 2012).

It has been shown that frequency of use leads to phonetic reduction which consolidates itself in phonological change. In the case of reduction in extremely high frequent phrases, a new grammatical morpheme may be created though the process of chunking. The data gathered in this study point to a close relationship between sound change and grammatical innovation. The present results reinforce the theory that usage not only influences but also gives rise to grammar. In this sense, the gradual lenition and deletion of segments may indicate the pathway through which language changes.