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

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Outline

1. Background information on Brazilian Portuguese pronouns
2. Word order and phonetic reduction
3. Hypotheses
4. Data collection and analysis
5. Results
6. Limitations and future steps
How does sound change impact grammar?

In Brazilian Portuguese:
Is sound change leading to the emergence of case distinctions in pronouns?
# Background: the evolution of pronouns

<table>
<thead>
<tr>
<th>Vulgar Latin</th>
<th>Early Modern Portuguese (before 16(^{th}) Century)</th>
<th>Contemporary Brazilian Portuguese</th>
</tr>
</thead>
<tbody>
<tr>
<td>eo</td>
<td>eu</td>
<td>eu</td>
</tr>
<tr>
<td>tu</td>
<td>tu</td>
<td>você*</td>
</tr>
<tr>
<td>ille / illa</td>
<td>ele / ela</td>
<td>ele / ela</td>
</tr>
<tr>
<td>nos</td>
<td>nós</td>
<td>a gente / nós</td>
</tr>
<tr>
<td>vos</td>
<td>vós</td>
<td>vocês*</td>
</tr>
<tr>
<td>illes / illas</td>
<td>eles / elas</td>
<td>eles / elas</td>
</tr>
</tbody>
</table>

* vossa mercê > vosmecê > você
Background: Subject and Object pronouns

<table>
<thead>
<tr>
<th></th>
<th>Subj</th>
<th>DirObj</th>
<th>IndObj</th>
<th>Gen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modern Port.</td>
<td>você</td>
<td>o / a</td>
<td>lhe</td>
<td>seu</td>
</tr>
<tr>
<td>Contemp. BP</td>
<td>você</td>
<td>você</td>
<td>pra você</td>
<td>de você</td>
</tr>
</tbody>
</table>

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<th>IndObj</th>
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<tbody>
<tr>
<td>Modern Port.</td>
<td>ela</td>
<td>a</td>
<td>lhe</td>
<td>seu</td>
</tr>
<tr>
<td>Contemp. BP</td>
<td>ela</td>
<td>ela</td>
<td>pra ela</td>
<td>dela*</td>
</tr>
</tbody>
</table>

* de + ela
Phonetic reduction

In Portuguese, unstressed segments and syllables undergo various types of phonetic reduction

• Vowel duration reduction
• Vowel contrast neutralization
  • Monophthongization
  • De-nasalization of vowels
• Coda consonant deletion
• Cluster simplification

Et cetera

Through sound change, a new set of pronouns emerges.
Hypotheses

1. Once the innovative pronouns become part of the system, they are subject to regular processes of reduction and deletion.

As the use of preposition + pronoun increases, chunks of reduced prepositions (pr-/d-) and reduced pronouns emerge throughout the entire paradigm.

>> type and string frequency

Hypotheses

2. The degree of deletion depends on the frequency of each pronominal form, which in turn depends on the syntactic context.

*Phonetic reductions affect case forms differently*

  >> *based on frequency effects* (Sub > rest)

  >>> *token frequency*
Method

• 36 spontaneous informal group interactions from the C-Oral Brasil Corpus of spoken Belo Horizonte Portuguese (Raso & Mello 2012)

• Text search

• Auditory and acoustic analysis

• 1,905 tokens analyzed, classified as
  – Sub, DirObj, IndObj, Gen
    • prepositional direct objects classified differently from verbal objects (i.e., accusative vs. dative)
Results (i) : Indirect Pronouns with pr-
Results (ii) : Subject Pronouns

Reduced form
Alternative reduced form
Full form
Results (iii) : Direct Object Pronouns

- Reduced form
- Less reduced form
- Full form
- Historical form
Tentative conclusions

- All pronouns examined are subject to regular processes of reduction and deletion
- The syntactic context determines the degree of reduction (esp. for 2s, 2p, ela, 3p)
- The data suggest phonetic reductions and chunking may be giving rise to a new set of pronouns
- Frequency effects can explain the different forms
Limitations / Next steps

- Small corpus - less than 300,000 words
- Didn’t control for frequency of the individual verbs or string frequency
- Preceding phonetic context (stressed vs unstressed) still needs to be addressed
- Local speaking rate needs to be addressed
- Few object pronouns - less frequent overall (cf. Hopper & Thompson 2001)
- Data refer to one dialect - but there is evidence of similar phenomena in other BP dialects
Special thanks to:

William Croft, Caroline Smith, Joan Bybee and Thaïs Cristófaro-Silva


Results (vi) - Genitive pronouns

<table>
<thead>
<tr>
<th>Reduced form</th>
<th>Full form</th>
<th>Historical form</th>
</tr>
</thead>
<tbody>
<tr>
<td>do'se</td>
<td>do'ses</td>
<td>d3'vo'ses</td>
</tr>
<tr>
<td></td>
<td>seu/sua</td>
<td>93</td>
</tr>
<tr>
<td>delí</td>
<td>delís</td>
<td>delè</td>
</tr>
<tr>
<td>delə</td>
<td>deləs</td>
<td></td>
</tr>
<tr>
<td>deləs</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>