In defence of the coda s
Word-initial #sC sequences in European Portuguese

Joanna Zaleska
University of Leipzig
CECIL’s 2014, Lublin
Introduction

Aim: a reanalysis of a set of SSG-violating words in European Portuguese, for which an empty-nucleus insertion rule has been postulated by Mateus & d’Andrade (2002).

Claims:

- these words should be viewed as containing a word-initial vowel at the underlying level
- nevertheless, they do not lend support to the claim that adjunction into the appendix is a universal strategy for dealing with initial #sC sequences
Outline

1. Constraints on onset clusters in EP (and violations thereof)
3. Three problems with Mateus & d’Andrade’s analysis
4. Reanalysis as vowel deletion
5. The coda or the appendix?
6. Conclusions
Outline

1. Constraints on onset clusters in EP (and violations thereof)
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6. Conclusions
Sonority Sequencing Generalization

Sonority Scale

vowels > glides > liquids > nasals > obstruents

(Jespersen 1904, Selkirk 1982)

Onset clusters must have rising sonority:

1. calma kálmə *kálmə ‘calm’
2. porto pómtu *pómtu ‘harbour’
3. asfalto əʃfátu *əʃfátu ‘asphalt’
4. mesmu mézmu *mézmu ‘same’

(1)
**Minimal Sonority Distance**

**Sonority Scale**

vowels > glides > liquids > nasals > obstruents

(Jespersen 1904, Selkirk 1982)

The minimal distance in sonority between onset consonants is 2:

1. **Permitted onset clusters**
   - plosive+tap
   - e.g. *[pr], *[br], *[tr], *[dr], *[kr], *[gr]
   - e.g. *branco ’white’, *abraço ’embrace’
   - plosive+lateral
   - e.g. *[pl], *[bl], *[tl], *[kl], *[gl]
   - e.g. *plano ’plan’, *repleto ’full’

2. **Some disallowed onset clusters**
   - fricative+nasal
   - e.g. *[fn], *[fm], *[vŋ], ...
   - nasal+liquid
   - e.g. *[nl], *[mʎ], *[nr], ...
## Exceptions

### Sonority Scale

vowels > glides > liquids > nasals > obstruents

(Jespersen 1904, Selkirk 1982)

<table>
<thead>
<tr>
<th>Word</th>
<th>Pronunciation</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>estar</td>
<td>[ʃtár]</td>
<td>'to be'</td>
</tr>
<tr>
<td>esperado</td>
<td>[ʃpɪrádu]</td>
<td>'expected'</td>
</tr>
<tr>
<td>esfinge</td>
<td>[ʃfíʒ]</td>
<td>'sphynx'</td>
</tr>
<tr>
<td>escindir</td>
<td>[ʃsǐdίɾ]</td>
<td>'to cancel'</td>
</tr>
<tr>
<td>esvair</td>
<td>[ʒveíɾ]</td>
<td>'to dissipate'</td>
</tr>
<tr>
<td>esmagar</td>
<td>[ʒmɛgár]</td>
<td>'to crush'</td>
</tr>
</tbody>
</table>
Outline

1. Constraints on onset clusters in EP (and violations thereof)


3. Three problems with Mateus & d’Andrade’s analysis

4. Reanalysis as vowel deletion

5. The coda or the appendix?

6. Conclusions
Empty Nucleus Insertion

Empty Nucleus Creation Convention (M & d’A 2002: 62)

Create a Nucleus to the left of an Onset, with the corresponding skeletal position, if in the skeleton tier this Onset is preceded by a non-associated position specified for voicing. Otherwise, create a Nucleus to the left of that non-associated position.
Empty Nucleus Insertion: illustration

Underlying representation

Nucleus Association Convention (simplified)
Associate all X [-cons] with a Nucleus

(adapted from Mateus & d’Andrade 2002: 60)

Onset Association Convention, part (a)
Associate all X [+cons] immediately preceding a Nucleus with an Onset

(Mateus & d’Andrade 2002: 61)
**Empty Nucleus Insertion: illustration**

**Onset Association Convention, part (b)**
Adjoin to the same Onset a preceding X [+cons] if it is in accordance with SSG and MSD

(Mateus & d’Andrade 2002: 61)

**Empty Nucleus Creation Convention (simplified)**
Create an empty Nucleus to the left of the non-associated position

(adapted from Mateus & d’Andrade 2002: 62)

**Coda Association Convention (post-lexical)**
Assign the non-associated X [+cons] to the coda of the preceding rhyme

(Mateus & d’Andrade 2002: 63)
Empty Nucleus Insertion: illustration

(5) Syllabification of *estar* 'to be'

\[
\text{X X X X X} \quad \xrightarrow{\text{t a r}} \quad \text{X X X X X} \quad \xrightarrow{\text{t a r}} \quad \text{X X X X X}
\]

\[
\text{O R} \quad \xrightarrow{\text{N}} \quad \text{R O R} \quad \xrightarrow{\text{N}} \quad \text{R O R}
\]

\[
\text{X X X X X} \quad \xrightarrow{\text{t a r}} \quad \text{X X X X X} \quad \xrightarrow{\text{t a r}} \quad \text{X X X X X}
\]

\[
\text{O R} \quad \xrightarrow{\text{N}} \quad \text{R O R} \quad \xrightarrow{\text{N}} \quad \text{R O R}
\]

\[
\text{X X X X X} \quad \xrightarrow{\text{t a r}} \quad \text{X X X X X} \quad \xrightarrow{\text{t a r}} \quad \text{X X X X X}
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Three problems with Mateus & d’Andrade’s analysis

Outline

1. Constraints on onset clusters in EP (and violations thereof)
3. Three problems with Mateus & d’Andrade’s analysis
4. Reanalysis as vowel deletion
5. The coda or the appendix?
6. Conclusions
Overview

- Incorrect results for word-internal $sC$ clusters
- Two empty nuclei insertion rules (and two types of empty nuclei)
- Stipulative voicing specifications
Three problems with Mateus & d’Andrade’s analysis

Incorrect results for word-internal $sC$ clusters

Underlying representation

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Associate all $X$ [-cons] with a Nucleus
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Onset Association Convention, part (a)
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(Mateus & d’Andrade 2002: 61)

Onset Association Convention, part (b)
Adjoin to the same Onset a preceding $X$ [+cons] if it is in accordance with SSG and MSD
(Mateus & d’Andrade 2002: 61)
Three problems with Mateus & d’Andrade’s analysis

Incorrect results for word-internal sC clusters

Empty Nucleus Creation Convention (simplified)
Create an empty Nucleus to the left of the non-associated position
(adapted from Mateus & d’Andrade 2002: 62)

Empty Onset Creation Convention (M & d’A 2002: 62)
Create an Onset to the left of a Rhyme, with the corresponding skeletal position, if in the skeleton tier this Rhyme is not preceded by an Onset.

Coda Association Convention (post-lexical)
Assign the non-associated X [+cons] to the coda of the preceding rhyme
(Mateus & d’Andrade 2002: 63)
Three problems with Mateus & d’Andrade’s analysis

Incorrect results for word-internal \( sC \) clusters

(6) Syllabification of \( pasto \) ‘pasture’

\[
\begin{array}{ccc}
R & R & O R \\
N & N & N \\
X X X X X & X X X X X & X X X X X \\
p a \bigcup t u & p a \bigcup t u & p a \bigcup t u \\
\rightarrow & \rightarrow & \\
O R & O R & O R \\
N & N & N \\
X X X X X & X X X X X & X X X X X \\
p a \bigcup t u & p a \bigcup t u \\
\end{array}
\]
Incorrect results for word-internal sC clusters

(6) Syllabification of *pasto* 'pasture' (continued)

```
O R O R O R
N N N N N
X X X X X X X

→ p a ∫ t u
```

```
O R O R O R
N N N C N
X X X X X X

→ p a ∫ t u
```

```
O R O R O R
N C N N
X X X X X X

[p a ∫ t u]
```

ENCC & EOCC produce empty syllables!

"[E]very base syllable in Portuguese consists of an onset and a rhyme even though any of them (but not both) may be empty"

(Mateus & d'Andrade 2002: 58)
Three problems with Mateus & d’Andrade’s analysis

Two rules of Empty Nucleus Insertion

Empty Nucleus Creation Convention (M & d’A 2002: 62)

Create a Nucleus to the left of an Onset, with the corresponding skeletal position, if in the skeleton tier this Onset is preceded by a non-associated position specified for voicing. Otherwise, create a Nucleus to the left of that non-associated position.
Two rules of Empty Nucleus Insertion

(7) More exceptions to SSG and MSD
a. \([pt]ério\) ‘pterion’
   \([bd]élio\) ‘bdellium’
   \([kt]enóforo\) ‘ctenophore’
   \([mn]emónics\) ‘mnemonic’
b. \([pn]eu\) ‘tyre’
   \([gn]omo\) ‘gnome’
Three problems with Mateus & d’Andrade’s analysis

Two rules of Empty Nucleus Insertion: illustration

Empty nucleus insertion to the left of the extrasyllabic consonant

Empty nucleus insertion to the right of the extrasyllabic consonant
Three problems with Mateus & d’Andrade’s analysis

Two rules of Empty Nucleus Insertion: motivation

(8) Sibilant distribution in European Portuguese: onsets

<table>
<thead>
<tr>
<th>Word</th>
<th>Pronunciation</th>
<th>Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>selo</td>
<td>[sélu]</td>
<td>‘seal’</td>
</tr>
<tr>
<td>zelo</td>
<td>[zélu]</td>
<td>‘care’</td>
</tr>
<tr>
<td>chá</td>
<td>[já]</td>
<td>‘tea’</td>
</tr>
<tr>
<td>já</td>
<td>[ʒá]</td>
<td>‘already’</td>
</tr>
<tr>
<td>assa</td>
<td>[ásẽ]</td>
<td>‘s/he roasts’</td>
</tr>
<tr>
<td>asa</td>
<td>[áze]</td>
<td>‘wing’</td>
</tr>
<tr>
<td>acha</td>
<td>[áʃẽ]</td>
<td>‘s/he finds’</td>
</tr>
<tr>
<td>haja</td>
<td>[áʒẽ]</td>
<td>‘there may be’ (subj.)</td>
</tr>
</tbody>
</table>

(9) Sibilant distribution in European Portuguese: codas

<table>
<thead>
<tr>
<th>Word</th>
<th>Pronunciation</th>
<th>Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>rasca</td>
<td>[Ráʃke]</td>
<td>‘(of) bad quality’</td>
</tr>
<tr>
<td>rasga</td>
<td>[Ráʒãe]</td>
<td>‘s/he tears’</td>
</tr>
<tr>
<td>artista</td>
<td>[ertíʃte]</td>
<td>‘artist’</td>
</tr>
<tr>
<td>charisma</td>
<td>[kəɾíʒme]</td>
<td>‘carisma’</td>
</tr>
<tr>
<td>lapis</td>
<td>[lápiʃ]</td>
<td>‘pencil’</td>
</tr>
</tbody>
</table>

(10) Sibilants in #sC clusters pattern with codas

<table>
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<td>[ʒveír]</td>
<td>‘to dissipate’</td>
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<td>[ʃfíʒ]</td>
<td>‘sphynx’</td>
</tr>
<tr>
<td>esmagar</td>
<td>[ʒmegár]</td>
<td>‘to crush’</td>
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Three problems with Mateus & d’Andrade’s analysis

Two types of Empty Nuclei

(11) Words with the negative prefix *in*: empty nucleus filled with *i*

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<tr>
<th>Word</th>
<th>Pronunciation</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>acabado</td>
<td>[ɐkebádu]</td>
<td>‘finished’</td>
</tr>
<tr>
<td>inacabado</td>
<td>[inɐkebádu]</td>
<td>‘unfinished’</td>
</tr>
<tr>
<td>esperado</td>
<td>[ipirádu]</td>
<td>‘expected’</td>
</tr>
<tr>
<td>inesperado</td>
<td>[inɨpirádu]</td>
<td>‘unexpected’</td>
</tr>
<tr>
<td>esquecível</td>
<td>[ɨkesívɐɾ]</td>
<td>‘forgettable’</td>
</tr>
<tr>
<td>inesquecível</td>
<td>[inɨɨkesívɐɾ]</td>
<td>‘unforgettable’</td>
</tr>
</tbody>
</table>

(12) Empty nuclei never filled with *i*:

<table>
<thead>
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<th>Word</th>
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<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>[pt]ério</td>
<td>*[pɨt]ério</td>
<td>‘pterion’</td>
</tr>
<tr>
<td>[bd]élio</td>
<td>*[bɨd]élio</td>
<td>‘bdellium’</td>
</tr>
<tr>
<td>[kt]énóforo</td>
<td>*[kɨt]énóforo</td>
<td>‘ctenophore’</td>
</tr>
<tr>
<td>[mn]emónics</td>
<td>*[mɨn]emónics</td>
<td>‘mnemonic’</td>
</tr>
<tr>
<td>[pn]eu</td>
<td>*[pɨn]eu</td>
<td>‘tyre’</td>
</tr>
<tr>
<td>[gn]omo</td>
<td>*[gɨn]omo</td>
<td>‘gnome’</td>
</tr>
</tbody>
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Three problems with Mateus & d’Andrade’s analysis

Stipulative voicing specifications

Empty Nucleus Creation Convention (M & d’A 2002: 62)

Create a Nucleus to the left of an Onset, with the corresponding skeletal position, if in the skeleton tier this Onset is preceded by a non-associated position specified for voicing. Otherwise, create a Nucleus to the left of that non-associated position.
Three problems with Mateus & d’Andrade’s analysis

Stipulative voicing specifications

(13) Underlying specifications for EP consonants (fragment)

<table>
<thead>
<tr>
<th></th>
<th>p</th>
<th>b</th>
<th>m</th>
<th>n</th>
<th>s</th>
<th>z</th>
<th>j</th>
<th>3</th>
<th>l</th>
<th>r</th>
</tr>
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<tbody>
<tr>
<td>[sonor]</td>
<td></td>
<td>-</td>
<td></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
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<tr>
<td>[cont]</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
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<td>+</td>
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<tr>
<td>[lateral]</td>
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<td></td>
<td>+</td>
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<tr>
<td>[nasal]</td>
<td></td>
<td>+</td>
<td>+</td>
<td></td>
<td></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>[voice]</td>
<td></td>
<td>+</td>
<td></td>
<td>+</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>[anterior]</td>
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<td></td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

(Mateus & d’Andrade 2002: 36)
Three problems with Mateus & d’Andrade’s analysis

### Stipulative voicing specifications

(13) Underlying specifications for EP consonants (amended)

<table>
<thead>
<tr>
<th></th>
<th>p</th>
<th>b</th>
<th>m</th>
<th>n</th>
<th>s</th>
<th>z</th>
<th>ʃ</th>
<th>ʒ</th>
<th>l</th>
<th>r</th>
</tr>
</thead>
<tbody>
<tr>
<td>[sonor]</td>
<td></td>
<td>-</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>[cont]</td>
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<td>+</td>
<td>+</td>
<td>+</td>
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<tr>
<td>[lateral]</td>
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<td>[nasal]</td>
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<td>+</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[voice]</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>[anterior]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

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(Mateus & d'Andrade 2002: 36)
## Stipulative voicing specifications

(14) **EP sibilants: underlying specifications for [voice] and [anterior]**

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<th>Word</th>
<th>Voicing</th>
<th>Anterior</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>selo</strong></td>
<td>[voice]</td>
<td>[-anterior]</td>
</tr>
<tr>
<td><strong>[sélu]</strong></td>
<td>'seal'</td>
<td></td>
</tr>
<tr>
<td><strong>zego</strong></td>
<td>[+voice]</td>
<td>[-anterior]</td>
</tr>
<tr>
<td><strong>[zélu]</strong></td>
<td>'care'</td>
<td></td>
</tr>
<tr>
<td><strong>chá</strong></td>
<td>[voice]</td>
<td>[-anterior]</td>
</tr>
<tr>
<td><strong>[já]</strong></td>
<td>'tea'</td>
<td></td>
</tr>
<tr>
<td><strong>já</strong></td>
<td>[+voice]</td>
<td>[-anterior]</td>
</tr>
</tbody>
</table>

(15) **Non-prevocalic sibilants: always underspecified in the UR**

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<tr>
<th>Word</th>
<th>Voicing</th>
<th>Anterior</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>peste</strong></td>
<td>[voice]</td>
<td>[-anterior]</td>
</tr>
<tr>
<td><strong>[pêʃti]</strong></td>
<td>'plague'</td>
<td></td>
</tr>
<tr>
<td><strong>Lisboa</strong></td>
<td>[voice]</td>
<td>[anterior]</td>
</tr>
<tr>
<td><strong>[liʒbóʃ]</strong></td>
<td>'Lisbon'</td>
<td></td>
</tr>
<tr>
<td><strong>lapis</strong></td>
<td>[voice]</td>
<td>[-anterior]</td>
</tr>
<tr>
<td><strong>[lápiʃ]</strong></td>
<td>'pencil'</td>
<td></td>
</tr>
<tr>
<td><strong>estar</strong></td>
<td>[voice]</td>
<td>[anterior]</td>
</tr>
<tr>
<td><strong>[ʃtár]</strong></td>
<td>'to be'</td>
<td></td>
</tr>
</tbody>
</table>
Outline

1. Constraints on onset clusters in EP (and violations thereof)
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Initial $i$ deletion

Claims:
- words with #sC clusters begin with an underlying vowel
- the melodic material (but not the higher prosodic structure) is deleted word-initially
- Coda Association rule precedes Empty Nucleus Insertion (assumed to account for words like pneu)
Initial /i/ deletion: illustration

Underlying representation
Note the word-initial vowel!

Nucleus Association Convention (simplified)
Associate all X [-cons] with a Nucleus
(adapted from Mateus & d’Andrade 2002: 60)

Onset Association Convention, part (a)
Associate all X [+cons] immediately preceding a Nucleus with an Onset
(Mateus & d’Andrade 2002: 61)

Onset Association Convention, part (b)
Adjoin to the same Onset a preceding X [+cons] if it is in accordance with SSG and MSD
(Mateus & d'Andrade 2002: 61)
Initial \( \acute{i} \) deletion: illustration

**Coda Association Convention**
Assign the non-associated \( X [+\text{cons}] \) to the coda of the preceding rhyme

(Mateus & d’Andrade 2002: 63)

**Word-level phonological rules**
Stress assignment, vowel reduction.

**\( \acute{i} \) deletion**
Delete a word-initial \( \acute{i} \) followed by a sibilant.

**Post-lexical phonological rules**
Palatalization and voice assimilation.
Initial /i/ deletion: illustration

(16) Derivation of *estar* ’to be’

\[
\begin{array}{c|c|c}
R & R & R \\
N & N & N \\
X X X X X & X X X X X & X X X X X \\
e s t a r & e s t a r & e s t a r \\
\end{array}
\]

\[
\begin{array}{c|c|c}
R & O R & R \\
N & N & N \\
X X X X X & X X X X X & X X X X X \\
e s t a r & e s t a r & e s t a r \\
\end{array}
\]

\[
\begin{array}{c|c|c}
R & O R & R \\
N & N & N \\
X X X X X & X X X X X & X X X X X \\
e s t a r & e s t a r & e s t a r \\
\end{array}
\]

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Reanalysis as vowel deletion

Initial /i/ deletion: illustration

(16) Derivation of *estar ‘to be’ (continued)

\[
\begin{array}{c}
R \quad O \quad R \\
\ \ \ \ \ \ \ \ \ \ \ \ \ N \quad C \quad N \quad C \\
\ \ \ \ \ \ \ \ \ \ \ X \quad X \quad X \quad X \quad X \quad X \\
\rightarrow \quad i \quad s \quad t \quad á \quad r
\end{array}
\quad \rightarrow \quad
\begin{array}{c}
R \quad O \quad R \\
\ \ \ \ \ \ \ \ \ \ \ N \quad C \quad N \quad C \\
\ \ \ \ \ \ \ \ \ \ \ X \quad X \quad X \quad X \quad X \quad X \\
\rightarrow \quad s \quad t \quad á \quad r
\end{array}
\quad \rightarrow \quad
\begin{array}{c}
R \quad O \quad R \\
\ \ \ \ \ \ \ \ \ \ \ N \quad C \quad N \quad C \\
\ \ \ \ \ \ \ \ \ \ \ X \quad X \quad X \quad X \quad X \quad X \\
\rightarrow \quad t \quad á \quad r
\end{array}
\]
Initial $i$ deletion: advantages

Advantages:
- Correct results for word-internal $sC$ clusters (in words like *pasto*)
- Consistent with palatalization and negative prefix data
- Rule of empty nucleus insertion simplified (for words like *pneu*) and divorced from voice values
- Lack of $i$ insertion (in words like *pneu*) explained
Initial \( i \) deletion: motivation

(17) \( e \) and \( e \) reduce to \( i \) in unstressed positions:

\[
\begin{align*}
devo & \quad [d\acute{e}vu] \quad \text{’I owe’} & \quad dever & \quad [d\acute{i}v\acute{e}r] \quad \text{’to owe’} \\
devi & \quad [d\acute{e}vi] \quad \text{’s/he owes’} & \quad dever & \quad [d\acute{i}v\acute{e}r] \quad \text{’to owe’} \\
selo & \quad [s\acute{e}lu] \quad \text{’stamp’} & \quad selar & \quad [s\acute{i}l\acute{a}r] \quad \text{’to stamp’} \\
selo & \quad [s\acute{e}lu] \quad \text{’I stamp’} & \quad selar & \quad [s\acute{i}l\acute{a}r] \quad \text{’to stamp’}
\end{align*}
\]

(18) \( i \) never appears word-initially:

\[
\begin{align*}
[\varepsilon/]l\acute{v}ira & \quad \text{’Elvire’} \\
[\varepsilon/]l\acute{o}r\acute{a}d\acute{o} & \quad \text{’El Dorado’} \\
[i/e]l\acute{e}f\acute{a}nte & \quad \text{’elephant’} \\
[i/e]r\acute{m}\acute{i}d\acute{a} & \quad \text{’chapel’} \\
[i/e]\acute{v}\acute{i}d\acute{e}nte & \quad \text{’evident’} \\
[i/e]\acute{c}\acute{o}n\acute{o}m\acute{i}a & \quad \text{’economics’}
\end{align*}
\]
Outline

1. Constraints on onset clusters in EP (and violations thereof)
3. Three problems with Mateus & d’Andrade’s analysis
4. Reanalysis as vowel deletion
5. The coda or the appendix?
6. Conclusions
Coda Theory vs. Appendix Theory

Kaye 1992

Vaux & Wolfe 2009

Vaux 2014:

Appendix Theory is superior to Coda Theory in handling #sC clusters.
Coda Theory vs. Appendix Theory: Palatalization

(19) Palatalization of word-internal and word-initial sibilants

- *pasto* [pás.tu] ‘pasture’
- *estar* [estar] ‘to be’
- *abstrato* [əbstrátu] ‘abstract’
Palatalization: Coda Theory

**pasto**

```
OR OR
\NC \NC
XXX X
pástu
```

**estar**

```
R OR
\NC \NC
XXX X
stár
```

**abstrato**

```
ROR
\NC \NC
XXX X
ebstrátu
```
The coda or the appendix?

Palatalization: Appendix Theory

**pasto**

Under Appendix Theory, palatalization rule needs to be complicated
Outline

1. Constraints on onset clusters in EP (and violations thereof)
3. Three problems with Mateus & d’Andrade’s analysis
4. Reanalysis as vowel deletion
5. The coda or the appendix?
6. Conclusions
In European Portuguese, words with #sC clusters begin with a vowel at the underlying level, whose melody is deleted when word-initial.

- This allows to account for all coda palatalization data in a unified fashion.
- The stipulations with respect to underlying [voice] values are no longer necessary.
- The account of all words that seemingly violate constraints on syllable structure is simplified.
## References I


Vaux, Bert. 2014. Initial sT- clusters involve appendices, not codas. Talk presented at NAPhC 8, Concordia University, Montreal.