Place of Articulation Shifts
A Gradual Road to the Unmarked

Eirini Apostolopoulou
University of Verona
University of Tromsø
eirini.apostolopoulou@uit.no

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WHAT THIS TALK IS ABOUT

• **Oral place of articulation shifts** cross-linguistically,
  • Specifically, I focus on shifts that consonants undergo before a heterosyllabic, coronal consonant → **pre-coronal codas**

• The **typology of PoA shift** and the **key conditions** that build the typological system of PoA

• **Not to be addressed**:  
  • Debuccalization  
  • Regressive assimilation  
  • Word-final codas
ROADMAP

1. THEORETICAL BACKGROUND
   • Place of Articulation and markedness
   • Typological observations
   • Shifts and positional effects

2. CASE STUDY: ITALIOT GREEK
   • The microtypology of PoA shifts in Italiot Greek dialects

3. TYPOLOGICAL ANALYSIS
   • OT analysis of the shifts
   • Property analysis of the typological system

4. CONCLUSIONS
1. Theoretical Background
PLACE OF ARTICULATION AND MARKEDNESS

• Different degrees of markedness of each oral place of articulation (PoA) (de Lacy 2002, 2006; Lombardi 1995, 1998, 2002; McCarthy 1988; among others)

• Two established representations:
  (1) **Universally fixed ranking** (">> >>": "more marked than", de Lacy 2006)
      *DORSAL >> >> *LABIAL >> >> *CORONAL

  (2) **Stringent constraints** (de Lacy 2002, 2006; see Prince 1997, 1999)
      *{DOR}, *{DOR, LAB}, *{DOR, LAB, COR}
THE PLACE NODE

- **Hierarchical organization** of the Place node (Rice 1994, building on ideas proposed by Avery & Rice 1989, based on previous work by Jakobson et al. 1952 and Hyman 1973; cf. Clements 1985; Sagey 1986; McCarthy 1988)

- Dorsals and labials group together to form the Peripheral node
- Parentheses indicate the unmarked value under each node
POA SHIFTS IN THE HIERARCHICAL MODEL

- Shift = delinking of a feature under the Place node:

(7) \( \text{Dor} \rightarrow \text{Lab} \)  
Place  
Peripheral  
Dorsal

(8) \( \text{Lab} \rightarrow \text{Cor} \)  
Place  
Peripheral

(7) and (8) indicate shifts in the hierarchical model involving the Place node.
PLACE FEATURES IN CODA POSITIONS

Coda Condition (Ito 1989; Yip 1991; see also Ito 1986; Steriade 1982)

- (non-word-final) codas may not have place features

(9) \*C]σ
    [place]

- Only homorganic clusters and geminates are allowed
- Assumption: before an onset occupied by a coronal, only coronals can occupy the coda
Proposed modification following the hierarchical structure:

• codas may not have place features

• Place features under the place node: [dorsal], [peripheral]

(10)  

a. *C]σ  

b. C]σ  

• Dorsals are specified as both [dor] and [per], labials as [per], and coronals bear no particular specification

• Depending on which coda condition dominates, a coda may not be dorsal or may not be peripheral → gradual shifts are allowed
2. Case Study: Italiot Greek
ITALIOT GREEK

Two Modern Greek dialects spoken in S. Italy

- *Salentinian Greek* (SG)
- *Calabrian Greek* (CG)
- They originate from *Medieval Greek* (MG)
SALENTINIAN GREEK: $K > P$, $P > T$

- At a first stage of **SG (SG1)**, **MG** dorsals shifted to labials ([Rohlfs 1950; Karanastassi 1997; Tzitzilis 2004])

(11) a. o[x]tó $>$ o[i]tó ‘eight’
   b. pi[k]nó $>$ pi[v]nó ‘thick’
   c. (e)[y]déerno $>$ a[v]dér:ō ‘I skin’

- At a later stage **SG2**, both the etymological labials and the labials that came from a dorsal gave their place to a geminate coronal:

(12) a. e[i]tá $>$ e[i]tá ‘seven’ etymological
   b. o[i]tó $>$ o[i]tó ‘eight’ former dorsal (see 11a)
CALABRIAN GREEK: K,P > T

- **CG** neutralized the old dorsals and labials to coronals (Rohlfs 1950; Karanastassis 1997)

(13) a. o[χ]tó > o[θ]tó (Rochudi CG) ‘eight'
    > o[s]tó (Bova CG)
    > o[t]thó (Galliciano CG)

b. pi[k]nó > pi[n]nó ‘thick'

c. (e)[γ]démmo > (a)[d]dér:o ‘I skin'

(14) a. e[θ]tá > e[θ]tá (Rochudi CG) ‘seven'
    > e[s]tá (Bova CG)
    > e[t]thá (Galliciano CG)

b. ka[p]nós > ka[n]nó ‘smoke'

c. ra[γ]dí > ra[d]dí ‘stick'
**TYPOLOGY**

- In the diachrony of Italiot Greek we witness three the language types:

<table>
<thead>
<tr>
<th>(15)</th>
<th>PoA</th>
<th>Description</th>
<th>Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>K, P, T</td>
<td>No merging</td>
<td>MG</td>
</tr>
<tr>
<td>2</td>
<td>P, T</td>
<td>K and P merge into P</td>
<td>SG1</td>
</tr>
<tr>
<td>3</td>
<td>T</td>
<td>K, P, and T merge into T</td>
<td>CG, SG2</td>
</tr>
</tbody>
</table>
3. Analysis
PROPOSAL

• A typological analysis of the PoA shifts examined
• Feature representation along the lines of Rice (1994)
• Framework: Optimality Theory (OT; Prince & Smolensky 1993/2004)
• Goals:
  • To offer an account for the stepwise shifts that result in less marked codas
  • To identify the ranking conditions that yield the full factorial typology of PoA shift
OT ANALYSIS: MARKEDNESS CONSTRAINTS

• Markedness hierarchy for the PoA: $K_{[dor, per]} > P_{[per]} > T$

• Subset inclusion markedness constraints (MARK) to capture this hierarchy (see Prince 1997, 1999, 2002; de Lacy 2002, 2006; see also Alber & Meneguzzo 2016; Merchant & Krämer 2017)

*K  Assign a violation for each output consonant that is specified as [dorsal]

*KP  Assign a violation for each output consonant that is specified as [peripheral]

• Target: non-final codas (see also Zoll 1996, 1998 on positional markedness)
  • A more accurate formulation of the constraints: *K/Coda, *KP/Coda; I will be using the abbreviated *K and *KP
OT ANALYSIS: FAITHFULNESS CONSTRAINT

- Every delinking (or new linking) counts as a violation of faithfulness
- A faithfulness constraint ensures that the input and the output contain the same place features

**FAITH**

Assign a violation for every input place feature that has no correspondent in the output

&

Assign a violation for every output place feature that has no correspondent in the output
VIOLATION TABLEAU

- The presence of place features in the output incurs violations on MARK
- The loss/addition of specification incurs violations on FAITH
- No shift towards the more marked; the candidates /P/ → [K], /T/ → [K], /T/ → [P] are harmonically bounded (see Samek-Lodovici & Prince 1999)
The Factorial Typology that is generated is the following:

<table>
<thead>
<tr>
<th>Optimal candidates</th>
<th>Description</th>
<th>Languages</th>
</tr>
</thead>
<tbody>
<tr>
<td>L.1 $K \rightarrow K, P \rightarrow P, T \rightarrow T$</td>
<td>Both [dorsal] and [peripheral] • Marked</td>
<td>MG</td>
</tr>
<tr>
<td>L.2 $K \rightarrow P, P \rightarrow P, T \rightarrow T$</td>
<td>No [dorsal] • Relatively unmarked</td>
<td>SG1</td>
</tr>
<tr>
<td>L.3 $K \rightarrow T, P \rightarrow T, T \rightarrow T$</td>
<td>No [dorsal] or [peripheral] • Unmarked</td>
<td>SG2, CG</td>
</tr>
</tbody>
</table>

(17) Factorial Typology
• The crucial ranking between `FAITH` and the two markedness constraints yields typologically different languages
PROPERTY ANALYSIS

Property Theory (Alber & Prince 2015, in prep.; Alber, DelBusso & Prince 2016)

• Properties: the sufficient and necessary ranking conditions which are freely combined with each other and generate every language of a typological system

• Representation of a property P: $X \leftrightarrow Y$

• Value a: $X >> Y$

• Value b: $Y >> X$

• Mootness: a language is moot to a property if this property is inactive in this language
PROPERTY ANALYSIS OF THE POA SHIFT SYSTEM

• The properties that build our system:

<table>
<thead>
<tr>
<th>(19)</th>
<th>Properties</th>
<th>Value a &lt;yes&gt;</th>
<th>Value b &lt;no&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>P1</td>
<td>Faith &lt;&gt; *KP</td>
<td>Faith &gt;&gt; *KP</td>
<td>*KP &gt;&gt; Faith</td>
</tr>
<tr>
<td>P2</td>
<td>Faith &lt;&gt; *K</td>
<td>Faith &gt;&gt; *K</td>
<td>*K &gt;&gt; Faith</td>
</tr>
</tbody>
</table>

• P1 determines the presence/absence of **peripherals** in a language
• P2 determines the presence/absence of **dorsals** in a language
PROPERTY ANALYSIS OF THE POA SHIFT SYSTEM

- The full property analysis (generated with the aid of OTWorkplace, Prince et al. 2020):

<table>
<thead>
<tr>
<th></th>
<th><strong>P1</strong></th>
<th><strong>P2</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( \text{FAITH} \leftrightarrow *\text{KP} )</td>
<td>( \text{FAITH} \leftrightarrow *\text{K} )</td>
</tr>
<tr>
<td>L.1</td>
<td>a</td>
<td>a</td>
</tr>
<tr>
<td>L.2</td>
<td>a</td>
<td>b</td>
</tr>
<tr>
<td>L.3</td>
<td>b</td>
<td>*moot</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Languages</th>
</tr>
</thead>
<tbody>
<tr>
<td>MG</td>
</tr>
<tr>
<td>SG1</td>
</tr>
<tr>
<td>CG, SG2</td>
</tr>
</tbody>
</table>

- **P1** is set to value a for L.1 and L.2, which allow peripherals, and to value b for L.3, which does not.

- **P2** is set to value a for L.1, which allows dorsals under the peripheral node, and to value b for L.2, which does not. L.3 is *moot* to P2, as, given that it does not allow a peripheral node, it cannot accommodate additional specification for dorsals.
LANGUAGE CHANGE

• The change from **MG (L.1)** to **SG1 (L.2)** is captured as a change of the value of **P2** (**FAITH <> *K**)
  • **FAITH** dominates *K* in MG, hence the presence of [dorsal] **(P2: value a)**
  • **FAITH** was “demoted” in SG1, i.e. faithfulness to [dorsal] is no longer respected **(P2: value b)**
  • Both languages allow peripherals **(P1: value a)**

<table>
<thead>
<tr>
<th></th>
<th>P1 FAITH</th>
<th>P2 FAITH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&lt;&gt; *KP</td>
<td>&lt;&gt; *K</td>
</tr>
<tr>
<td>L.1</td>
<td>a</td>
<td>a</td>
</tr>
<tr>
<td>L.2</td>
<td>a</td>
<td>b</td>
</tr>
</tbody>
</table>
LANGUAGE CHANGE

• The latest evolution of SalGr A (L.2) to SalGr B (L.3) was achieved through the change of the value of P1 (FAITH <> *KP)
  • *KP gets ranked above FAITH, thus peripherals are no longer allowed (P1: value b)
  • P2 is not relevant in L.3, since the prohibition of peripherals implies the prohibition of dorsals
LANGUAGE CHANGE

• The change **from MG (L.1) to CG (L.3)** is again accounted for as a change of the value of P1 (**FAITH <> *KP**)
  
• **FAITH** dominates *KP** in MG, hence the presence of [peripheral] (**P1: value a**)  
  
• **FAITH** is outranked by *KP** in CG, i.e. faithfulness to [peripheral] is no longer respected (**P1: value b**)  
  
• **P2 is not relevant in L.3**, since the prohibition of peripherals implies the prohibition of dorsals
PROPERTY TREETOID

P1
peripherals

no

L.3

yes

P2
dorsals

no

L.2

L.1

yes
4. Conclusions
CONCLUSIONS

• PoA shift in a coda position results in a less marked coda
• Three typologically different languages are found
  • A marked one, where no place shift takes place
  • A partially unmarked one, where dorsals merge with labials by means of the delinking of [dorsal]
  • A more unmarked one, where dorsals and labials merge with coronals by means of the delinking of [peripheral] (and thus of [dorsal])
• The typological system of PoA shifts is built on the basis of the interaction of
  • a faithfulness constraint that militates against changes in the specification for place
  • (Positional) markedness constraints prohibiting the presence of certain place features in a coda
ACKNOWLEDGEMENTS

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• Alber, Birgit & Alan Prince. 2015. Outline of Property Theory. Ms, University of Verona / Rutgers University.


THANK YOU!