

Today's topics:

- **Allophonic alternations in OT and Richness of the Base**

Background preparation:

- McCarthy (2008), sec 2.8

0. Today's key points

- What kind of **descriptive generalization** can we make about the Spanish data set in McCarthy (2008), sec 2.8, exercise (30)?
- What kind of **constraint ranking** will we need to **enforce** this pattern?
- What role does **ROTB** play in this discussion?

1. Descriptive generalization: Spanish data set

- **Descriptive generalization** (scratch work):
 - Voiced fricatives appear ...
 - Voiced stops appear ...
- Can we express either environment as a **featurally natural class**?
 - Is there a clear “elsewhere” case?

1. Descriptive generalization: Spanish data set

- **Descriptive generalization** (scratch work):
 - Voiced fricatives appear **after vowels, liquids [l, r]**
 - Voiced stops appear **in initial position and after oral stops, nasals, and fricatives**
- Can we express either environment as a **featurally natural class**?
 - Is there a clear “elsewhere” case?
 - Will thinking about syllable structure help here?

1. Descriptive generalization: Spanish data set

- Trying again: **descriptive generalization**
 - Voiced fricatives appear **after** [+approx]
 - Voiced stops appear **elsewhere**

1. Descriptive generalization: Spanish data set

- Descriptive generalization
 - Voiced fricatives appear after [+approx]
 - Voiced stops appear elsewhere
- Can we propose constraints analogous to those for the Yoruba and Madurese nasalization patterns that McCarthy discusses (p 91)?
 - What ranking do we need for Spanish?
 - Below: What are the cross-linguistic (typological) consequences of proposing these constraints?

2. OT analysis: Spanish data set

- **F** constraint related to the **difference** between allophones
- **M** constraint forcing the **context-specific** allophone
- **M** constraint forcing the **elsewhere** allophone

2. OT analysis: Spanish data set

- **F** constraint related to the **difference** between allophones

IDENT[±cont]

- **M** constraint forcing the **context-specific** allophone

***VD** 'assign one * for every **sequence** of segments [+approx] [-son, -cont, +voi]'

- **M** constraint forcing the **elsewhere** allophone

***VOIFRIC** 'assign one * for every **segment** that is [-son, +cont, +voi]'

2. OT analysis: Spanish data set

- How are these constraints ranked for Spanish?
(What rankings among them can we **prove**?)

	IDENT[±CONT]	*VOIFRIC	*VD

2. OT analysis: Spanish data set

- How are these constraints ranked for Spanish?
(What rankings among them can we **prove**?)

/aba/	*VD	*VoiFRIC	IDENT[±cont]
(a) [aba]	* W	L	L
→ (b) [aβa]		*	*

2. OT analysis: Spanish data set

- How are these constraints ranked for Spanish?
(What rankings among them can we **prove**?)

/aba/	*VD	*VoiFRIC	IDENT[±cont]
(a) [aba]	* W	L	L
→ (b) [aβa]		*	*

/βa/	*VD	*VoiFRIC	IDENT[±cont]
(a) [βa]		* W	L
→ (b) [ba]			*

- Note the key role of **ROTB** here

2. OT analysis: Spanish data set

- So... what is the UR for [b]~[β] in Spanish?
 - Could it be [b]?
 - Could it be [β]?
 - Could it be abstract/underspecified?
 - What information **must** this UR contain?

3. Predictable patterns and ROTB

(Review)

From a constraint-based perspective...

- **Predictable** info: **enforced by the grammar**
 - This means that predictable information is enforced by the **constraints** as they are **ranked** in a particular language

3. Predictable patterns and ROTB

(Review)

- **Richness of the Base (ROTB):**

3. Predictable patterns and ROTB

- **Richness of the Base (ROTB):** There are no language-particular restrictions on input forms
 - If something is a possible input in one language (such as /CVC/), it is a **possible input in all languages**
 - **Hypothetical inputs**, that don't correspond to actual URs of the language, are sometimes needed in order to test the grammar's ability to rule out ungrammatical forms
- What are the implications of ROTB for patterns of **complementary distribution**?

3. Predictable patterns and ROTB

- What are the implications of ROTB for patterns of **complementary distribution**?
- Ranking must be...
 - **M** constraint forcing **context-specific** allophone
 - » **M** constraint forcing **elsewhere** allophone
 - » **F** constraint violated by the **difference** between allophones
- Grammar must produce the **predictable** output *no matter which allophone is in the input*

4. For next time

- What are all the **possible rankings** of the three constraints we have proposed for Spanish?
- What **output** does each ranking produce for these inputs?

/ba/ /βa/ /aba/ /aβa/

- What is the **distribution** of [b] and [β] under each of these rankings? (Are they all plausible?)