

1. Introduction

Context: Catalan Philology BA degrees, with an empirical and descriptive orientation.

Question: What pedagogical strategies can be used to introduce theoretical aspects within such type of courses.

- Goals:**
- (A) To illustrate how fundamental phonological concepts can be introduced.
 - (B) To illustrate how SPE and OT can be incorporated in descriptive courses.
 - (C) To assess the advantages and drawbacks of SPE vs. OT-framed treatments.

Roadmap: §2 Familiarizing students with basic concepts through data sets involving just one feature, and translating them into SPE and some very basic OT.

§3 Introducing basic OT intuitions through syllable structure.

§4 Introducing OT ranking and reranking of faithfulness and markedness constraints in the analysis of dialectal variation.

§5 Assessing the advantages and drawbacks of SPE vs. OT in this type of courses.

Some **exercises** and possible **questions** are also suggested. See also additional materials in the Padlet.

2. Familiarizing students with basic concepts: voicing in obstruents

only one feature involved

minimal pair **ALTERNATIONS**

[bú.sus] BUT [bús] [s] = [s]
 'divers' 'diver'
 [bú.zus] BUT [bús] [z] ~ [s]
 'busses' 'bus'

Through many other examples they can see that there is always contrast in voicing in onset position, but neutralization (only voiceless obstruents) at the end of the word, which happens to be coda position. They can also see that this is found in other categories (not just nouns) and in derived words.

[tə.pét] BUT [táp] [sur.ti.ən] BUT [súrt]
 'stopper.DIM.M' 'stopper.M' 'they were leaving' 'he leaves'
 [sə.βri.əw] BUT [sáp] [par.ði.ən] BUT [pért]
 'you would know' 's/he knows' 'they were losing' 's/he knows'

CONTRAST **NEUTRALIZATION**

UR of root: /buz/ vs. /bus/

Devoicing rule:

obstruent → [-voice] / __# or obstruent → [-voice] / __o

easily translatable into an OT constraint: **NO-VOICED-CODA**

Exercise: show that an (onset) voicing rule would derive wrong results.

Voicing assimilation can be used to distinguish lexical processes from postlexical ones: /sab/: *sap això*: [sə.p ə.ʃə] BUT *sap coses*: [səp.kə.zəs]
 'knows' 's/he knows this' 's/he knows things'

Devoicing is lexical.

sap gramàtica: [səβ.grə.mə.ti.kə] Voicing assimilation is postlexical.
 's/he knows grammar'

Exercise: what would happen if devoicing were postlexical?

Voicing assimilation rule:

obstruent → [+voice] / __o [α voice]

easily translatable into an OT constraint: **AGREE(voice)**

Morpheme-internal voicing assimilation can also be used to illustrate **lack of alternations** (and also **complementary distribution**):

examen: [əβ.zə.mən] *taxi*: [tək.si]
 'exam' 'taxi'

Possible discussion: how to represent URs in non-alternating cases.

A first incursion to OT **ranking**, and the notion of **violable constraint**, can be made with the two constraints considered, using examples like [səp.kə.zəs] and [tək.si] vs. [əβ.zə.mən] and [səβ.grə.mə.ti.kə]:

AGREE(voice) >> NO-VOICED-CODA

Exercise: what would happen with the opposite ranking?

3. Introducing basic OT intuitions through syllable structure

Catalan epenthesizes **vowels** to avoid an ill-formed syllable structure:

stop: [əs.təp]; *[stəp]

Catalan does not avoid syllables without onsets; no epenthetic consonants:

'yesterday' [ə.ɪ]; *[tə.ti]
stop: [əs.təp]; *[təstəp]

BUT

Catalan uses an **existing** consonant from the previous word to provide a syllable with an onset (resyllabification):

tot ahir 'all yesterday': [tò.tə.ɪ]

An example like [əs.təp] can be used to introduce some constraints gradually, by also increasing gradually the set of candidates.

[əs.təp] vs. *[stəp]

SONSEQ, DEP-V

+ *[sə.təp]

+ ONSET, NOCODA, O-CONTIGUITY

+ *[təp], *[təstəp]

+ MAX-C, DEP-C

In accounting for resyllabification, (dominated) **Alignment** constraints can be introduced.

+ [ə.ɪ] vs. [tò.tə.ɪ]

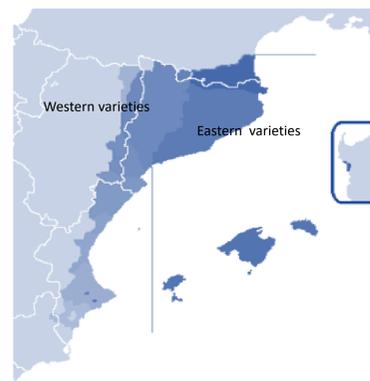
+ ALIGN-R(syllable, word)

Exercise: show the ranking needed in each case.

4. Introducing OT constraint (re)ranking through dialectal variation

- Our students are expected to learn the stressed and unstressed vowel systems in Catalan dialects, as well as their different types of vowel reduction.
- In Catalan, there is a significant amount of variation in this respect: see Varieties A and Varieties B, as illustration.
- Varieties A and B are useful to introduce the **universal constraint ranking** on vowels in unstressed position, according to their sonority (Prince & Smolensky 1993 / 2004; Crosswhite 2001), to illustrate prominence driven vowel reduction, as well as to exemplify **variation via constraint re-ranking**, the **conflict between M and F**, and the notion of **ranking argument** (Prince & Smolensky 1993 / 2004).

Varieties A (most Eastern varieties)



Varieties B (Western varieties)

*_{UNSTR}A >> IDENT-V: reduction of the low vowel /a/ to [ə]

/pas+et/	* _{UNSTR} A	* _{UNSTR} E, ə	* _{UNSTR} E, o	IDENT-V	* _{UNSTR} I, u	* _{UNSTR} ə
a. [pasét]				*		*
b. [pasét]	*!					*

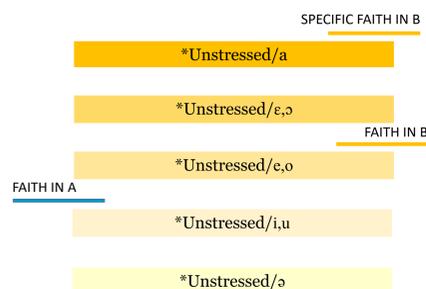
*_{UNSTR}E, ə >> *_{UNSTR}E, o >> IDENT-V: reduction of the low-mid vowels /e/ and /o/ to [ə] and [u]

/mel+oz/	* _{UNSTR} A	* _{UNSTR} E, ə	* _{UNSTR} E, o	IDENT-V	* _{UNSTR} I, u	* _{UNSTR} ə
a. [məlós]				*		*
b. [məlós]		*!				*
c. [məlós]			*!	*		*

*_{UNSTR}E, o >> IDENT-V: reduction of the high-mid vowels /e/ and /o/ to [ə] and [u]

/mez+et/	* _{UNSTR} A	* _{UNSTR} E, ə	* _{UNSTR} E, o	IDENT-V	* _{UNSTR} I, u	* _{UNSTR} ə
a. [mezét]				*		*
b. [mezét]			*!			*

OT universal constraint rankings & constraint re-ranking across varieties



IDENT-SpecV >> IDENT-V: lack of reduction of the low vowel /a/

/pas+et/	IDENT-SpecV	* _{UNSTR} A	* _{UNSTR} E, ə	IDENT-V	* _{UNSTR} E, o	* _{UNSTR} ə
a. [pasét]		*				*
b. [pasét]	*!			*		*

*_{UNSTR}E, ə >> IDENT-V: reduction of the low-mid vowels /e/ and /o/ to [e] and [o]

/mel+oz/	IDENT-SpecV	* _{UNSTR} A	* _{UNSTR} E, ə	IDENT-V	* _{UNSTR} E, o	* _{UNSTR} ə
a. [məlós]				*	*	*
b. [məlós]			*!			*
c. [məlós]		*!		*		*

IDENT-V >> *_{UNSTR}E, o: lack of reduction of the high-mid vowels /e/ and /o/

/mez+et/	IDENT-SpecV	* _{UNSTR} A	* _{UNSTR} E, ə	IDENT-V	* _{UNSTR} E, o	* _{UNSTR} I, u
a. [mezét]				*	*	*
b. [mezét]		*!				*

5. SPE- and OT-based approaches in class: advantages and drawbacks

Our own experience using SPE and OT as a theoretical framework to describe phonological aspects of Catalan has revealed us beneficial in some respects but not in others.

- An **SPE-based** formalization constitutes a clear-cut descriptive device, with the important advantage that the description of a process does not compromise the description of other processes; however, generalizations and dialectal variation cannot be accounted for easily (cf. devoicing rule vs. vowel reduction):

Devoicing rule (see § 2):

obstruent → [-voice] / __# obstruent → [-voice] / __o

Vowel reduction rules (cf. § 4):

1 $\begin{pmatrix} -\text{high} \\ <+\text{lab}> \end{pmatrix} \rightarrow \begin{pmatrix} +\text{back} \\ +\text{ATR} \\ <+\text{high}> \end{pmatrix} / \begin{pmatrix} \text{---} \\ -\text{Stress} \end{pmatrix}$ (a, e, e → ə; o, o → u) **Varieties A**

2 $\begin{pmatrix} -\text{high} \\ -\text{low} \end{pmatrix} \rightarrow \begin{pmatrix} +\text{ATR} \end{pmatrix} / \begin{pmatrix} \text{---} \\ -\text{Stress} \end{pmatrix}$ (ε, e → e; ə, o → o) **Varieties B**

Difficulties for students: a) arbitrary formalization of dialectal variation; b) vacuous application in 2: e → e; o → o; c) opaqueness of the rule formulation; d) motivation for the processes: why does the devoicing rule have to apply, why this change and not the opposite one?, why these featural changes in the vowel reduction rules?; e) no typological consequences can be derived from the rules.

- An **OT-based** formalization is likewise a good descriptive device, and it allows dealing with dialectal variation very straightforwardly. However, a) because we are dealing with the whole phonology of a language many different constraints will have to come into play; b) if many constraints come into play, the possibilities of constraint interactions are enormous. As a consequence, the description of a process often compromises the description of other processes (due, for instance, to the participation of the same constraint in more than one process), so that the description in OT terms of the overall phonological system of a language cannot be very precise in class.

DEP-V interacts with SONSEQ: SONSEQ >> DEP-V to avoid a violation of SONSEQ with epenthesis. But NO-VOICED-CODA also interacts with DEP-V and MAX-C: DEP-V, MAX-C >> NO-VOICED-CODA, because a final voiced obstruent cannot be kept by epenthesizing a vowel (/búz/ → [bús], *[búza]), or deleting the consonant (/búz/ → [bús], *[bú]). AGREE(voice) also interacts with DEP-V: DEP-V >> AGREE(voice), because voicing assimilation is not blocked by epenthesis (*gos net*: /gos#net/ → [goz#néti], *[gosanét]). And so on and so forth.

FAQ by students: So, which is the final constraint hierarchy for Catalan? Is there a database of constraints?