



Marisa Cruz & Sónia Frota
Laboratório de Fonética (FLUL/CLUL)
Universidade de Lisboa

***Aspects of prosodic variation in EP:
research questions and methodologies***

Summary

❖ Prosodic Atlas

- Major goal
- Research questions
 - parameters (comparison with Catalan Atlas features)
- Methodologies
 - geographical distribution
 - tasks
 - speakers
 - annotation criteria

❖ PhD Project: contribution

- for the Prosodic Atlas (1)
- for the DEPE Project (2)

❖ PhD <-> Prosodic Atlas (1)

- major goal
- parameters
- geographical distribution
- speakers
- tasks (specificities included)
- annotation criteria

❖ PhD <-> DEPE Project (2)

- Perception Tasks
 - intonational contours
 - prosodic phrasing
 - rhythm

❖ Expected Results

❖ Applications

Major Goal

- ❖ To build a Prosodic Atlas for EP, similarly to the *Atles interactiu de l'entonació del català*, in order to contribute to the Pan-Romance Atlas, which aims at:
 - building a Romance database which allows the comparison of intonational parameters across languages
 - analysing prosodic constituency
 - understanding the prosodic variation found in Romance languages (in the line of the collaboration between Laboratório de Fonética, Iberian and Italian researchers
 - <http://www.fl.ul.pt/LaboratorioFonetica/intphraro.htm> - and including the initial work on Catalan, Spanish, Galician and Portuguese, presented at the *PaPI'2007 Workshop*)

Prosodic Atlas of EP

Research Questions

- ❖ General parameters to be considered in all varieties:
 - intonational contours associated to different sentence types (= Catalan Atlas)
 - prosodic phrasing above PW
 - sandhi phenomena
 - syntactic structure (branching/non-branching)
 - length (n^o of syllables/PWs)
 - rhythmical organisation of utterances
- (Ramus et al. 1999, Frota & Vigário 2001)

≠
Catalan



comparison with SEP (Standard European Portuguese)

Prosodic Atlas of EP

Research Questions

- ❖ Parameter proposed for both Catalan and EP: intonation contours and different types of sentences (less explored in EP because other goals are considered)

EP (= Catalan; =SEP)

- Declaratives (narrow and broad focus)
- Wh- questions
- Yes/No questions (narrow and broad focus)
- Commands
- Requests
- Calling contours

EP (= Catalan; ≠ SEP)

- Disjunctive questions
- Questions with enumeration
- Questions with tags
- Exclamations

Catalan (not explored in EP)

- Vocative
- Rhetoric questions

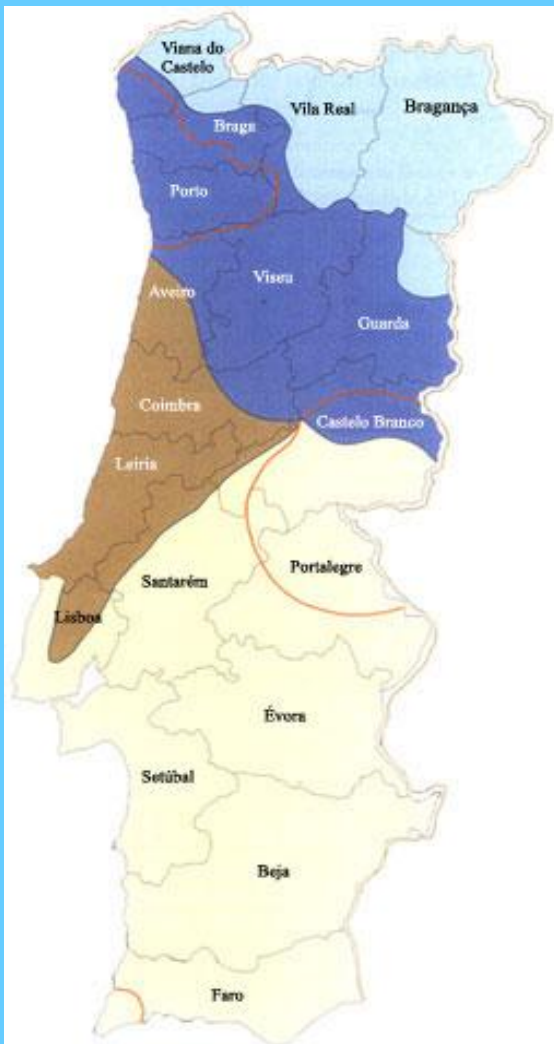
Prosodic Atlas of EP

Methodologies

- ❖ Geographical distribution
 - 18 districts
 - 2/3 areas (cities or villages?) per district
- ❖ Linguistic characteristics considered in the geographical distribution:
 - EP dialects (according to Cintra 1971, adapted by Segura & Saramago 2001)
 - Regions with particular features (also included in Cintra's map)



Variation in EP (continental)



❖ Northern varieties


- Trás-os-Montes and Alto Minho
- Baixo Minho (Braga is already analysed – cf. NEP data and results), Douro and Beiras

❖ Central-Southern varieties

- Littoral Centre
- Interior Centre and South
- Areas with peculiar features


Prosodic Atlas of EP

Methodologies

- ❖ Tasks (all videotaped ≠ Catalan):
 1. Intonation survey with a given context to elicit ≠ sentence types/contours (Frota 2000, 2002, 2009 *corpora*)
 2. MapTask dialogue
 3. Conversation [with(out) theme imposed?]
10-15 minutes (only a 3-4 minutes extract for analysis)
 4. Reading task: controlled *corpora* regarding
 - (i) *sandhi* phenomena → Frota 2000 *corpus*
 - (ii) syntactic complexity (branching/non-branching phrases) → Frota 2000, D'Imperio et al. 2005 *corpora*
 - (iii) constituents length (n^o of syllables/PWs)
 - (iv) rhythm analysis (Frota & Vigário 2001 *corpus*)
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Prosodic Atlas of EP

Methodologies

- ❖ Speakers (all ♀ - e.g. creaky voice avoidance):
 - 3 age intervals (\neq Catalan – feedback requested)
 - (i) 20-35
 - (ii) 45-50 (+10 years than the last interval; -10 years than the next one; to cover almost ages)
 - (iii) 60 or +  how to establish this limit?
- ❖ 3 speakers per age interval (3x3 by area > 9x3 by district > 27x18= 486 speakers in the country)
- ❖ All tasks will be performed by all speakers, except the Map Task that won't be accomplished by speakers of 60 or +

Prosodic Atlas of EP

Methodologies

- ❖ Annotation criteria
 - All data will be orthographically transcribed (elisions and epentheses included)
 - Intonational analysis will be based on Frota 2009 annotation, to be extended (cf. EP Tunes – Table 1)
 - We aim at providing a P_ToBI system which includes:
 - (i) tonal labels
 - (ii) labels for prosodic constituents edges (having *sandhi* phenomena and duration as cues \neq ToBI)
 - *Praat* will be used for data transcription

Prosodic Atlas of EP

Methodologies

❖ *Praat* tiers:

- C/V intervals for rhythm analysis
- PW segmentation, orthographically transcribed
- PWG segmentation
- PhP segmentation
- IP segmentation
- tonal analysis
- phonetic orthography transcription or SAMPA tier

❖ *Praat* script:

- only relevant tiers will be selected for each parameter under analysis

PhD Project

Contribution for the Prosodic Atlas of EP

- ❖ Major goal: to observe prosodic phrasing, intonation and rhythm in the central-southern variety
- ❖ Parameters to explore and compare with SEP and NEP:
 - organisation and characterisation of prosodic constituents above PW
 - tonal inventory and the pragmatic meanings of tonal morphemes
 - IP average size
 - pitch accent distribution per IP (tonal density)
 - intonation contours for each sentence type and pragmatic function
 - rhythmic properties (location in stress/syllable-timed space)

PhD Project

Contribution for the Prosodic Atlas of EP

- ❖ Geographical distribution
 - Beja district (1 area → Castro Verde)



PhD Project

Contribution for the Prosodic Atlas of EP

- ❖ Geographical distribution
 - Faro district (1 area → Albufeira)



PhD Project

Contribution for the Prosodic Atlas of EP

❖ Speakers

- 3 age intervals

(i) 20-35

(ii) 45-50

(iii) 60+

to be collected

to be analysed

❖ 3 speakers per area (3x2) > total of 6 speakers, whose data will be compared with the SEP and NEP results

❖ Tasks (already mentioned): intonation contours (sentence types), Map Task dialogue, conversation and reading task

PhD Project

Contribution for the Prosodic Atlas of EP

- ❖ Reading task: controlled *corpora* for the inspection of
 - (i) *sandhi* phenomena
 - (ii) syntactic complexity
 - (iii) constituent length
 - (iv) rhythm



Specific phenomena (depending on the area under analysis) that may be regulated by prosody: are they produced only at specific prosodic positions thus providing additional cues for constituency?

e.g. ? [[Este **CAFÉ**[j]]PhP [não presta]PhP]IP.
This coffee is not good.

? [[Eu prefiro]PhP [este **CAFÉ**[j]]PhP]IP.
I prefer this coffee.

final glide at
Alentejo

PhD Project

Contribution for the Prosodic Atlas of EP

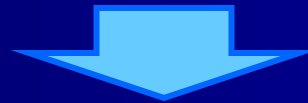
- ❖ Annotation criteria
 - orthographic transcription (same criteria as for Prosodic Atlas)
 - intonational analysis will be based on Frota 2009 annotation (cf. EP Tunes – Table 1)
 - *Praat* 5.0 Software will be used, with the same 7 tiers as for Prosodic Atlas
 - all results will be compared with SEP and NEP data: that's why we will apply (and extend) the same *corpora*

PhD Project

Contribution for the DEPE Project

- ❖ Perception Tasks (using *SuperLab* and/or *Eye Tracking*):
 - intonation contours depending on sentence types and focus
 - rhythm measures

if significant differences occur between varieties



- ❖ Contribution for the DEPE Project (PTDC/CLE-LIN/108722/2008) – *Development of prosodic structure and intonation* –, specifically to the «Development of the intonational system» task.

PhD Project

Contribution for the DEPE Project

- ❖ «Development of the intonational system» task: includes perception experiments targeting the intonational contrasts present in the input language
- ❖ Major goal: clarify whether categories that are already produced are perceived and whether categories that are not produced are/are not perceived
- ❖ Proposed goals which will benefit from my PhD results:
 - to understand the contribution of the input (adult speech) to intonational development
 - to build a database of EP adult speech labelled for intonation

Expected results

- ❖ Having the SEP and NEP as counterparts, we expect:
 - different intonational contours and prosodic phrasing (depending on sentence types and structure) in southern varieties, but without significant distinction between Beja and Faro districts (excepting particular populations), which is coherent with Lindley Cintra's adapted map
 - specificities on rhythm measures, which will allow to (i) establish some differences between varieties; (ii) discuss the rhythmic nature of EP; (iii) contribute to the debate around rhythm classes/*continuum* (in the line of Frota & Vigário 2001's work)

Applications

- ❖ Both the Prosodic Atlas and DEPE, together with my PhD project, will enlarge research on prosodic variation in EP (particularly) and in Romance languages (in general), contributing with interesting findings to:
 - language typology
 - interface studies (syntax-prosody, morphology-prosody)
 - prosodic bootstrapping
 - speech therapy
 - speech synthesis and forensics
 - EP teaching as 1st or 2nd language



Muito obrigada!
Graciés!



Acknowledgements

- ❖ **To Pilar Prieto and her *Grup d'Estudis de Prosòdia* (GrEP) for this excellent opportunity**

PhD project funded by Fundação para a Ciência e a Tecnologia - BD/61463/2009.