

# Grammar – Phonology & Phonetics

## Onset-CEL

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### 1 – Introduction

The phonology & phonetics group develops research on two areas: *prosodic constituency* and *acquisition of phonology*.

The main goals of the team are:

- (i) to contribute to the knowledge on EP phonological properties;
- (ii) to build an electronic tool for public use to extract frequency information of phonological units from written texts - **FreP** ;
- (iii) to proceed with the development of databases for current/future public use.

<http://www.fl.ul.pt/unidades/centros/onset/gramatica.htm>

### 2 – Research topics and goals

#### A. Prosodic variation (S. Frota & M. Vigário)

Intonational phrasing has been the main research topic within the Romance Languages intonational phrasing project. Main goals:

- (i) to establish the patterns of placement of intonational boundaries;
- (ii) to determine the influence of syntactic and prosodic factors on boundary placement;
- (iii) to describe the phonetics and phonology of intonational boundaries.

#### B. Perception of rhythm (S. Frota)

Investigation on the origins of perceptual epenthesis has looked at languages like French and Japanese, and more recently Brazilian and European Portuguese. Main goals:

- (i) to study perceptual epenthesis in EP (difference between (abstract) syllabic structure (= BP) and phonetic realization > vowel reduction and vowel deletion processes; Rhythmic differences);
- (ii) to compare the results with the ones available for other languages;
- (iii) to identify the key factors for epenthesis and their interplay with rhythm.

#### C. Frequency of phonological units: FreP (S. Frota, F. Martins & M. Vigário; collaborators M.J. Freitas, S. Correia, T. Costa)

The importance of frequency for phonology has long been noticed (e.g. activation of constraints, phonetic reduction, regularization, emergence/development of grammatical units); for EP, frequency information is scarce, non-replicable, corpus-dependent. The tool **FreP** - main goals:

- (i) to obtain frequency data useful to linguistic research on the phonology of the language;
- (ii) to provide an electronic tool for public use;
- (iii) to develop applications of the tool to general linguistics, language acquisition, language teaching, speech evaluation/therapy.

#### D. Acquisition of phonology - Prosodic structure

(L. Almeida, S. Correia, T. Costa & M. J. Freitas; collaborators S. Frota, M. Vigário, F. Martins)

Crosslinguistic research shows that different aspects of the child's linguistic development are constrained by the mastery of prosodic constituency and/or by input frequency. Main goals:

- (i) to proceed with research on syllable structure in monolingual (Portuguese) and bilingual children (Portuguese/French);
- (ii) to study the acquisition of word stress and evaluate its relation with the prosodic and the morphological shapes of early words;
- (iii) to proceed with research on the interface prosodic constituency/segments.

#### E. Acquisition of phonology - Segmental structure

(T. Costa & M. J. Freitas)

Results on segmental acquisition provide information on the architecture of segmental inventories and on the acquisition of target phonological processes, contributing for the ongoing debate on the nature of early lexical representations. Main goals:

- (i) to describe the acquisition of place and manner of articulation under consonantal and vocalic nodes;
- (ii) to investigate the acquisition of phonological processes in the target grammar.

### 3 – Phonetics Laboratory

**Research team:** S. Frota, F. Martins, M. Vigário, Isabel Joana & Huguette Guerreiro

**Collaborators:** M. J. Freitas, A. L. Santos, S. Correia, T. Costa

Laboratório de Fonética has an important history in FLUL. In the last years its activity was suspended but it was reactivated under the Onset-CEL context and it constitutes a sub-unit of Onset, together with Laboratório de Psicolinguística and LabEL.

**Research activities:** (i) Forensic phonetics (F. Martins); (ii) Language resources (M. Vigário); (iii) Laboratory phonology (S. Frota).

<http://www.fl.ul.pt/LaboratorioFonetica/>

### 4 – Projects

**Concluded during 2004:**

- (i) **NETWORK TONE AND INTONATION IN EUROPE**. European Science Foundation. Univ. Nijmegen (2002-2004) [S. Frota: co-coordinator].
- (ii) **Understandy Phonology-the Phonological Constituents in EP**. Univ. Lisboa. FCT/FEDER (2001-2004) [M. J. Freitas, S. Frota & M. Vigário].

**Ongoing projects:**

- (i) **Intonational Phrasing in Romance**, Lab. Fonética, Onset-CEL, FLUL, UBC - Spain, UAB-Spain, UP-France. [S. Frota & M. Vigário].
- (ii) **Desenvolvimento da ferramenta FreP**, Lab. Fonética, Onset-CEL, FLUL [S. Frota, F. Martins & M. Vigário].
- (iii) **PhonBank**, B. MacWhinney (CMU - EUA) & Y. Rose (UN - Canadá), Carnegie Mellon University. [M. J. Freitas, L. Almeida, S. Correia & T. Costa].
- (iv) **Programa Nacional de Ensino do Português**, Ministério da Educação. [M. J. Freitas].
- (v) **Banco de Dados sobre Aquisição do PE-Língua Materna**. Lab. Psicolinguística, Onset-CEL, FLUL [M. J. Freitas, L. Almeida, S. Correia & T. Costa].

### 5 – Products

**A. Romance Languages database (RLD):** A corpus of laboratory speech designed to be comparable across languages: SVO sentences; 2 constituent length conditions: *short* (3 syllables); *long* (5 syllables); 7 syntactic branching conditions; 2 prosodic branching conditions; 124 sentences x 3 times x 2 speakers = 744 sentences per language/variety.

**B. FreP** (see section 2) <http://www.fl.ul.pt/LaboratorioFonetica/frep>

**C. Child Language database:** A corpus of videotaped speech productions of 16 children longitudinally observed (322 sessions with monolinguals (256+66); 139 sessions with bilinguals). Data has been partially transcribed and inserted in two DB formats: **PHON** (L. Almeida, S. Correia & T. Costa); **CHILPHON** (M. J. Freitas). Transcribed data and video files will be internationally shared under the PHONBank project (B. MacWhinney & I. Rose).

### 6 – Partnerships

(i) **International:**

**Prosodic constituency** - M. d'Imperio, *U.Provence-France*; E. Dupoux & E. Parlo, *EHESS-France*; G. Eliordeta, *EHU-Spain*; B. Fivela, *SNS-Italy*; P. Prieto, *UAB-Spain*;

**Acquisition of phonology** - P. Fikkert, *RB-Holland*; R. Lamprecht, *PUC-RGS-Brazil*; C. Levelt, *LU-Holland*; C. Matzenauer, *UP-Brazil*, Y. Rose, *UN-Canada*; R.Santos, *USP-Brazil*.

(ii) **Within Onset-CEL:** (i) **Laboratório de Psicolinguística** (phonological acquisition, phonological processing, clinical linguistics); (ii) **Syntax team** (feature geometry, acquisition of morphosyntax, Educational Linguistics); (iii) **LabEL**.

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