1. GENERAL FRAMEWORK

1.1. Aims

1.2. Methodology

2. ANALYSIS AND MODELLING OF PENINSULAR SPANISH PROSODY

2.1. Analysis and modelling of Peninsular Spanish prosody: Local phenomena


AIMS

• Study of the displacement of fundamental frequency (F0) peaks phonologically associated with lexically stressed syllables in Peninsular Spanish
• To determine some factors that can influence peak displacement

CONCLUSIONS

• At least in the highly controlled corpus used in this study, there is a clear tendency towards F0 peak displacement in paroxyton words - the unmarked category in Spanish - in non prepausal position
• The strength of the syntactic boundary - NP (Subject) - VP vs. VP - NP (Object) - and the presence or absence of pauses seem to be important factors affecting the shifting of F0 peaks phonologically associated with lexically stressed syllables
• Sentence length and modality do not seem to have a strong influence on peak displacement
• Pauses would act as inhibitors of peak displacement


AIMS
• Validation of the final melodic contours proposed by Navarro (1945)
• Definition of final melodic contours
• Analysis of the relationship between final melodic contours, sentence modality and syntactic boundaries

CONCLUSIONS
• There are problems in identifying 5 different final movements according to criteria defined by Navarro (1945)
• Final movements can be divided into rising and falling with one sub-type in each corresponding to circumflex patterns
• Final movements as described can be associated to sentence modality according to Navarro’s predictions, but circumflex patterns at the end of declarative and total interrogative sentences are also found
• Some preference for specific final movements at syntactic boundaries are found: rising patterns in NP(subject)-VP(predicate), falling patterns at the end of juxtaposed sentences


AIMS
• Preliminary examination of the use of vowel duration and F0 movements as markers of different types of syntactic boundaries in Spanish

CONCLUSIONS
• The results of the study are not conclusive
• Vowel lengthening and F0 movements adjacent to boundaries which do not coincide with a pause can not be clearly related to syntactic phenomena
• Some results tend to favor the hypothesis that resets could be indicators of syntactic cohesion
2.2. Analysis and modelling of Peninsular Spanish prosody: Global phenomena

2.2.1. Modelling of F0 patterns in isolated sentences - Garrido (1991); Garrido & Gudayol (1991)

Aims
- Definition of F0 patterns for Spanish isolated sentences

Results
- Definition of F0 patterns: Rising pattern - declarative; Rising pattern - interrogative; Falling pattern; Overlapping patterns: Wave’ pattern, Increase of F0 range, Circumflex pattern, Increase of F0 value or slope in the first peak, Variations in the slope of the final segment
- F0 patterns and sentence modality

<table>
<thead>
<tr>
<th>Sentence modality</th>
<th>Pattern</th>
<th>Overlapping pattern</th>
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<tbody>
<tr>
<td>Declarative</td>
<td>Falling</td>
<td></td>
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<tr>
<td>Absolute and relative questions</td>
<td>Rising-interrogative</td>
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<td>Falling</td>
<td>Increase of F0 in first peak</td>
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<tr>
<td>Exclamatives</td>
<td>Falling</td>
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<tr>
<td>Volititives</td>
<td>Rising-interrogative</td>
<td>(Circumflex pattern)</td>
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<tr>
<td></td>
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<td>(Falling final slope)</td>
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</tbody>
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2.2.2. Prosodic differences in reading style: isolated vs. contextualized sentences - Garrido, Llisterrri, de la Mota & Rios (1993, 1995)

Aims
- Comparison of the prosodic properties of sentences read in isolation and contextualized in paragraphs.
- To provide additional Spanish data to support the findings of Umeda (1982), Lehiste (1984), Gronnum-Thorsen (1985, 1986) and Ladd (1988)
- To provide information to improve prosodic rules for synthesis at the paragraph level.
CONCLUSIONS

• The phonetic instantiation of the rhythmical pattern does not seem to be different in the four conditions studied

• Differences between isolated, medial and final text sentences are mainly located at the beginning of the Fo contour and are also related to the range (Lehiste, 1984; Grønnum-Thorsen, 1986, 1986; Ladd, 1988)

• Isolated sentences are similar to text initial ones

• A paragraph declination line can be defined as a line linking the first Fo maxima of each sentence to obtain the topline and linking the Fo minima to obtain the bottom line

General tendency towards a paragraph declination line (Grønnum-Thorsen, 1985, 1986)

2.2.3. Analysis of global pitch contour domains at paragraph level in Spanish reading texts - Garrido (1993)

AIMS

• To find out differences between pitch contours in a series of paragraphs by looking for the different F0 resets

• To analyze the domain of the contours in order to define the type of unit (syntactic, phonological, phonetic) underlying them

• To study the structure of the pitch contours and to analyse its relation with the rest of the contours of the paragraph

CONCLUSIONS

• Existence of a special prosodic unit covering the domain of pitch contours

• Lack of one-to-one relation between position of pauses or syntactic structure and the intonational parsing of paragraphs, although relationships can be detected

• Existence of a global pattern for the whole paragraph

2.3. Analysis and modelling of Peninsular Spanish prosody: Corpus encoding

2.3.1. MULTEXT -Automatic modelling and perceptual validation of F0 contours - Estruch, Garrido & Llisterrri (1995)

AIMS

• Perceptual validation of the automatic modelling of the F0 curve by MOMEL in a Spanish corpus
CONCLUSIONS

• Low percentage of errors in the target points assigned by MOMEL
• Errors at the beginning and end of sentences, specially in final rising contours

3. ANALYSIS AND MODELLING OF CATALAN PROSODY

3.1. Analysis and modelling of Catalan prosody: Local phenomena


AIMS

• Definition of F0 contours of phonic groups
• Study of the relationship between F0 contours and sentence modality
• Study of the relationship between F0 contours and speaking style

RESULTS

• Two types of phonic groups in declarative sentences in sentence initial position: rising head - falling nuclear tone - rising tail and level nuclear tone - falling tail
• Two types of phonic groups in declarative sentences in sentence final position: rising nuclear tone - falling tail and rising head - falling nuclear tone - rising tail
• Interrogative sentences: rising or falling tail
• Imperative sentences: falling contour
• More similarities are found between F0 patterns corresponding to individual and social exchanges than between any of these situations and the patterns corresponding to social exchanges

3.2. Analysis and modelling of Catalan prosody: Global phenomena


AIMS

• Definition of F0 patterns for isolated sentences in Catalan based on an acoustic analysis and a perceptual validation
• Study of the relationship between the defined patterns and sentence modality
CONCLUSIONS

• Preliminary F0 patterns for Catalan isolated sentences have been obtained: Falling - declarative, Rising - total question, Level - 'que' question, Falling - QU question, Falling exclamative, Falling exclamative 2

• A first perceptual validation has been attempted

3.2.2. Pauses and F0 contours in reading news - Garrido (1992)

AIMS

• Phonetic description of a speaking style: reading news
Analysis of F0 movements
Analysis of pauses

• Study of the relationship between F0 movements, pauses and syntactic structure

RESULTS

• Pauses tend to be located at specific points: end of paragraph and end of sentence; boundary between juxtaposed, coordinated or subordinated elements; boundaries within a sentence: subject - predicate, verb - direct object or attribute, sentential adverbs; boundaries between parenthetical elements; changes of unmarked word order

• General use of a circumflex pattern in declarative sentences. Rising pattern in sentence internal boundaries in declarative sentences. Falling pattern in final declarative sentence position and at sentence internal boundaries

References


Peninsular Spanish intonation - general descriptions


Catalan intonation


BONET, E. (1986) "L'entonació de les formes interrogatives en barceloní", Els Marges (Barcelona) 33: 103-117


