INTRODUCTION

BACKGROUND

Previous research on the phonological role of tonal scaling has shown that pitch range variation may not just be related to paralinguistic usage, but rather that the difference in pitch height shown that pitch range variation may not just be related to categorical effects [Ladd and Morton, 1997; Chen, 2003; Prieto, 2003; Calhoun, 2004; Face, 2005; Vanrell, 2006].

Yes-no questions and what-questions in Majorcan Catalan have been described as containing a difference in pitch height in the prenuclear syllable.


There are significant differences in the identification percentage for the vowel of these two interrogative particles and showed that sentence type has a large effect on the pitch of the leading tone H within the nuclear accent H+L*, it being significantly higher for yes-no questions than for what-questions.

The production study in Vanrell (2006) revealed differences in pitch, vowel quality and optional tone H within the nuclear accent H+L*, it being significantly higher for yes-no questions than for what-questions.

The follow-up perception study revealed that a strong perceptual cue that Majorcan listeners use when distinguishing yes-no questions from what-questions is the difference in pitch height of the leading tone of the nuclear accent.

Identification results seemed to suggest that there is a supplementary cue that plays a role in interpreting ambiguous stimuli, and this is noteworthy in two respects:

- The effect of accentuation on interrogative classification in
  Majorcan Catalan
- The results obtained differed depending on the base from which the continuum was generated (yes-no questions vs. what-questions).

However, the results obtained differed only on one cue (the pitch cue), suggesting that this group of subjects relied in their judgments on the presence/absence of accent as a contradictory cue to the base stimulus. The presence of accent as a contradictory cue to the base stimulus may exert a stronger effect than the presence of accent in helping listeners disambiguate yes-no questions from what-questions.

METHOD

MATERIALS

One token of the sentence Que l’hi duries? (Would you bring it to him/her?) and one token of the sentence Què l’hi duries? (What would you bring him/her?) produced by a native female speaker of Majorcan Catalan (already used in Vanrell, 2006).

Both tokens are homophonous at the segmental level.

Four continua were created by shifting the peak upwards/downwards in ten steps of 6 Hz. Two of these continua contained a contradictory cue to the base stimulus (yes-no questions: qué; what-question: qué).

Stimuli were presented over headphones. Subjects were seated at a computer in a quiet room.

Perception test was played from a laptop computer by means of E-prime.

Participants: 21 native speakers of Majorcan Catalan (13 female speakers, 8 male speakers, between 18 and 40).

Participants had to raise a pre-set level of identification accuracy: 80% of the base stimuli (5 participants were rejected).

Subjects were seated at a computer in a quiet room.

Perception test was played from a laptop computer by means of E-prime.

Stimuli were presented over headphones. A break of 10 seconds between the blocks.

RESULTS

CLASSIFICATION RESULTS

Boundary and slope values have been got from the SPSS logistic curve. The term “b1” is related to the slope. The boundary value was calculated using the formula (1) and b0 and b1 values given for the logistic curve for our data.

\[ \text{Boundary} = \frac{\ln(b0)}{b1} \]

For boundary values, there are no significant differences between the yes-no question based continua (T=33, ns, r=-3) or between the what-question based continua (T=40, ns, r=-.25). There are no significant differences for slope values between the yes-no question based continua (T=38.50, ns, r=-26) or between the what-question based continua (T=36, ns, r=-.16).

The presence/absence of accent has no significant influence on the boundary and slope values of the identification curves.

The results again differ slightly depending on the base stimulus from which the continuum was generated. The presence of accent as a contradictory cue to the base stimulus may exert a stronger effect than the absence of accent on helping listeners disambiguate the ambiguous stimuli.

CONCLUSIONS

- There are significant differences in the identification percentage for each stimulus that can be attributed to the contradictory cue only in the boundary between categories of the yes-no question based continua.
- The accent exerts an effect only on the RT measurements of the yes-no question based continua.