The perception of accentual prominences in French L1 and L2: effect of intonation and lexical component

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Abstract

This research aims at examining the perception of accentual groups in French by French-speaking listeners and by Spanish/Catalan-speaking learners of French. The material was composed of French five-syllable sequences produced by native speakers of French and by Spanish/Catalan-speaking learners of French. The sequences were produced in the assertive and interrogative modalities. Moreover, a delexicalized version of the sequences was created. Participants listened to each sequence and had to decide whether it was composed of 1 or 2 groups. Results show that the listeners were more likely to perceive 2 groups when 1) the sequences were produced by learners of French, 2) the sequences were presented in the delexicalized version, and 3) the sequences’ speech rate decreased.

Reference


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The perception of accentual prominences in French L1 and L2: effect of intonation and lexical component

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Introduction

- Accental differences (as for primary stress) between French and Spanish/Catalan:
  - Stress function (deemphatic vs distinctive)
  - Stress position (fixed vs free)
  - Stress application domain (group vs word)
  - Acoustic parameters (duration vs F0 + duration / intensity)

- In French, the actual realization of primary stress depends on:
  - Number of syllables in the group (i.e. rhythmic structure), (Rossi 1999)
  - Speech rate, (Martin 2006, Delais-Roussarie & Post 2008)
  - Modality (assertive/interrogative), (Wunderly 1988)

- In French L2:
  - Spanish learners tend to an insufficient deaccentuation of French utterances (Barquero 2012, Schwab 2012), especially in assertive sentences in comparison to interrogative ones, (Estrada 2003, Santiago & Delais-Roussarie 2012)

- In perception, different degrees of stress deafness according to:
  - L1 (fixed- or free-stress language)
  - Processing level (acoustic/linguistic)

Goal

- Examining the perception of accentual prominences as a function of the listeners’ L1, the speakers’ L1, the modality, the rhythmic structure and the type of speech (natural/delexicalized)

Method

- Participants
  - 15 native French speakers (FR_Listeners)
  - 15 Spanish/Catalan-speaking learners of French (B1-B2) (SP_Listeners)

- Material
  - 4 five-syllable French sequences (e.g. les clés du patron) produced in the assertive and interrogative modalities by:
    - 4 French native speakers (FR_Speakers)
    - 4 Spanish/Catalan-speaking learners of French (B1-B2) (SP_Speakers)
    - Delexicalized version of the sequences (i.e. sasasa)

- Procedure
  - Online testing with Linguistic platform (www.linguistic.com)
  - Task: Indicate whether the sequence is composed of 1 or 2 groups
  - Two parts: Delexicalized items and natural items

- Data analysis
  - Calculation of speech rate (in syll/s.)
  - Mixed-effects regression models:
    - Random terms: participants and items
    - Dependent variable: 1 group / 2 groups response
      - Predictors: participants’ L1 (FR_Listeners/SP_Listeners), speakers’ L1 (FR_Speakers/SP_Speakers), modality (assertive/interrogative), rhythmic structure (2+3 / 3+2 syllables), type of speech (natural/delexicalized) and speech rate

Results

No effect of Listener’s L1, Modality and Structure

Effect of the Speakers’ L1

- More sequences perceived as 2 groups when produced by SP_Speakers (47%) than when produced by FR_Speakers (40%)

Effect of Type of speech

- More sequences perceived as 2 groups for delexicalized items (47%) than for natural items (40%)

Effect of Speech rate

- More sequences perceived as 2 groups when speech rate decreases

Interaction Listeners’ L1 x Type of speech

- FR_Listeners perceive more often 2 groups in delexicalized items (46%) than in natural items (35%), whereas SP_Listeners perceive 2 groups to same extent in delexicalized (48%) and natural items (46%).

Conclusion

- Effect of the Speakers’ L1 (i.e. more “2 groups” responses for non-natives than for natives) ➔ No deaccentuation in non-natives?
- Effect of Type of speech (i.e. more “2 groups” responses for delexicalized items than for natural items, especially in native listeners) ➔ Different processing levels involved (linguistic processing vs acoustic-based perception)?
- Effect of Speech rate (i.e. more “2 groups” responses with slow speech rate, especially in native listeners)

➔ Different perception of accentual prominences in native listeners of French and in Spanish/Catalan learners of French

➔ Different processing of the acoustic / linguistic information
  - Due to the accentual differences between French and Spanish/Catalan?
  - Due to second language acquisition processes (Kaglik & Boula de Mareuil 2009)?