Utterance-initial F0 movements in the spontaneous speech of Hungarian learners of Spanish

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Keywords — word stress, utterance-first, fundamental frequency, Hungarian learners of Spanish, negative transfer

I. INTRODUCTION

Prosodic stress is the result of the prominence given to a syllable compared to the rest of the syllables in a word, but as for Spanish, there is no complete unanimity in the literature whether this prominence is achieved by changes in the fundamental frequency, intensity or duration with respect to its context (cf. [1], [2] and [3]). In Hungarian, word stress is realized by extra intensity and/or higher fundamental frequency [4].

Hungarian and Spanish stress systems are inherently different in a sense that Hungarian, contrarily to Spanish, has a word-initial fixed position for lexical stress. In Spanish, the position of the stressed syllable is most typically the penultimate one. This implies that for Hungarian learners of Spanish (HLS), this constitutes a challenging area of language acquisition.

This study aims at analysing utterance-first word stress realization patterns in the spontaneous speech of 16 advanced level Hungarian learners of Spanish, as compared to the spontaneous speech of 16 native Spanish speakers. The investigation is based on the intonational theory and representational methodology ‘Prosodic Analysis of Speech’ [5], which works with standardized data regardless of irrelevant prosodic variations.

In native Spanish declarative sentences, the shape of the intonation contour reminds us of a suspension bridge (cf. [6]), in which internal word stresses are not given melodic prominence, only the first and the last ones (referred to as the first peak and the nucleus, respectively, [7]), or as a continuously descending melody from the first peak on, with internal melodic peaks on or immediately after stressed syllables [7, 8]. This means that the Spanish utterance-first syllable is by default followed by a rise until the first stressed syllable (or often to the syllable after it). As Hungarians give prominence to first syllables, The Spanish declarative sentences realized by HLS are expected to start from a high F0 value followed by a fall instead of a rise.

According to the results, Hungarian learners of Spanish do realize utterance-initial syllables followed by a fall rather than a rise as a consequence of presumable negative transfer from their mother tongue, but our native Spanish corpus is not exclusively characterized by a definite rise from the utterance-first syllable to the first peak either.

II. CORPUS, THEORETICAL BACKGROUND AND METHOD

A. Corpus

The native Spanish corpus was obtained from the ‘Map Task’ activities from the Interactive Atlas of Romance intonation (cf. [9]). It contains only spontaneous speech samples by 16 informants (3 men and 13 women), from recordings of 51 minutes and 23 seconds in total. Only monolingual areas were chosen for the analysis, so as to avoid potential influence by other peninsular languages. The corpus of Hungarian learners of Spanish consists of 16 audio recordings realized in a soundproof room of 80 minutes 53 seconds within a Map Task activity by 16 speakers (2 men and 14 women). All the Hungarian informants were students learning Spanish, with a B2 level proficiency in the target language.

B. Theoretical background and method

The theoretical background is based on [5] and [10]. Within this approach, intonation must be interpreted strictly as the succession of relevant f0 variations. Melodic curve F0 values are standardized, so that the contours can be objectively comparable.

This study deals with the range of the tonal movement expressed in terms of percentages from the utterance-first syllable

- to the next F0 turning point
- and also to the immediately subsequent syllable.

Stressed and unstressed utterance-initial syllables were treated separately (as it was plausible that unstressed utterance-initial syllables would be more likely followed by a rise in native Spanish sentences than stressed utterance-initial syllables, these latter being potential F0 peaks by themselves).
III. RESULTS

According to the results, Hungarian learners of Spanish do realize utterance-first syllables followed by a fall rather than a rise, but this is also true for native Spanish spontaneous declarative sentences somewhat surprisingly, as attested in the corpus of this study. Although the tonal movement to the first F0 turning point was characteristically a fall in both the native Spanish and the Hungarian Spanish realization, values were more salient in case of HLS, but still not significantly different. cf. Fig. 1:

![Values in % of the tonal movement until the first F0 turning point in both corpora.](image)

Unstressed utterance-initial syllables were followed by a fall in the 56.9% of the native Spanish occurrences, in the case of HLS, this proportion was not significantly higher, 59.7%. This means that HLS do realize utterance-first syllables typically followed by a fall, but this is also true for native Spanish speakers, only in smaller proportion, and the range of the fall is wider in the case of HLS. Differences, however, have not proved to be significant.

IV. CONCLUSIONS

As Hungarians have word-initial stress by default, HLS were supposed to realize Spanish declaratives by additional prosodic prominence on the utterance-first syllables. As for melody, the prosodic trait investigated in this paper, this prominence was present in a sense that utterance-first syllables were characterized by higher F0 values followed by a fall. Still, results did not contrast remarkably with native Spanish patterns, as though Spanish neutral declarative sentences are reported to have a ‘suspension bridge’ shape melody, with a rise from the utterance-first syllable to the first peak, in this study this rise was less characteristic in the case of native Spanish samples. As for future investigations, intensity values should also be discussed in further studies in order to have a more systematic description of Hungarian-Spanish interlanguage prosody, defining this way areas of negative linguistic transfer in second language acquisition, which need to be addressed in Spanish as a foreign language classrooms.

REFERENCES