Exploring the prosody of the RC attachment construction
in English and Spanish
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We re-examine and supplement—with expanded duration analyses and new pitch contour analyses—the preliminary report of Fernández et al. (2003) on patterns of phrasing in English and Spanish sentences containing the relative clause (RC) attachment construction, see (1). That study, prompted by the findings of Hemforth et al. (submitted), examined utterances elicited using written stimuli, as in (2). Prosodic analyses bear on an account of behavioral findings under two assumptions (Fodor, 1998): that implicit prosody projected during silent reading factors into attachment decisions, and that projected prosody resembles explicit prosody. Our goal (as in Fernández et al.) is to determine what aspects of attachment preference do and do not have prosodic correlates.

Hemforth et al.’s study of attachment preference, contrasting the construction’s usual post-verbal object placement with pre-verbal subject placement, replicates the cross-linguistically invariant effect of RC length (higher attachment for longer RCs), and reveals two notable new features. Uniformly across languages, pre-verbal placement weakens the effect of RC length on attachment. Additionally, for Spanish but not English, mean rates of N1-attachment shift across sentence types: Spanish attaches higher than English post-verbally, but lower pre-verbally.

Fernández et al. establish that phrasing patterns correlate with Hemforth et al.’s findings for RC length, but not for attachment shift. In N2 durations, where final-lengthening plus optional pausing accompany the N2][RC phrase-break which arguably promotes N1-attachment, they report a length-by-placement interaction. For both languages, N2 durations are reliably greater before long RC, but this effect is reduced for N2 durations in sentences with N1-of/de-N2-RC placed pre-verbally. This interaction plausibly originates in the global prosody of pre-verbal placement sentences: an obligatory phrasing break between the super-heavy subject and its matrix verb reduces the likelihood of a break internal to N1-of/de-N2-RC.

However, N2 durations altogether lack the language-by-placement interaction required if Spanish attachment shift (and English non-shift) were similarly correlated with modulation of the likelihood of N2][RC phrasing breaks. To definitively rule an account in these terms of attachment shift, our expanded analyses of N2 duration incorporate comparisons of target-sentence N2 with corresponding measures drawn from the preamble sentences of the elicitation protocol. The latter provide estimates of N2’s intrinsic duration, and these baselines are critical since phonetic content inevitably varies in a cross-linguistic study, e.g., *bridegroom* versus *novio*. Analyses here confirm the finding of a null language-by-placement interaction.

Acknowledging that sentence prosody recognizes not only the siting of phrasing breaks but also their intonational category, we consider also the possibility that pre-verbal and post-verbal placement can trigger N2][RC breaks of different kinds. Our pitch contour data suggest that in Spanish this may be so. The rising contour assigned by Spanish to N2 in post-verbal materials is reserved for the close of RC in pre-verbal materials, where N2 carries instead a falling contour. Since in English N2’s contour uniformly falls, N2][RC phrasing tunes indeed correlate with the behavioral pattern. Still to be determined is what translation different pitch contour patterns have in formal prosodic analyses, and how in turn these might factor into a prosodic account of attachment preference.

Examples

(1) a. The guest impressed the brother of the bridegroom who (often unknowingly) snores.
   b. The brother of the bridegroom who (often unknowingly) snores impressed the guest.

(1’) a. El invitado impresionó al hermano del novio que (a menudo inconscientemente) roncaba.
   b. El hermano del novio que (a menudo inconscientemente) roncaba impresionó al invitado.

(2) a. The guest impressed the brother of the bridegroom.
   (The brother of the bridegroom impressed the guest.)
   b. Which bridegroom? The bridegroom who (often unknowingly) snores.

(2’) a. El invitado impresionó al hermano del novio.
   (El hermano del novio impresionó al invitado.)
   b. ¿Qué novio? El novio que (a menudo inconscientemente) roncaba.

References


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BACKGROUND TO THE STUDY

Our aim is to characterize the default (i.e., discourse-neutral) prosody assigned to complex sentence types. Our focus on formal prosodic properties is necessary to the exercise of what Fodor (1998, 2002) implicates in the prosody hypothesis. We claim that prosody projected during sentence reading influences parsing.

ATTACHMENT PREFERENCE DATA

Hemforth et al.'s (submitted) cross-linguistic study expands the database on RC attachment preferences. The innovation (from 8 speakers for each language) employed a “Post-to-Times” protocol ensuring that RC was read consistently, and that RC was disambiguated for low attachment (Bradley et al., 2003). e.g.,

- The guest impressed the brother of the bridegroom.
- The brother of the bridegroom who snores impressed the guest.

DATA EXTRACTION AND TREATMENT

In TARGETS only, we focus on sites which Fernández et al.'s analysis identifies as final in default phrasological phrases: N2 is phrase-final in N1|N2|RC.

- Long RC
- Short RC
- Post
- Post Pre

TARGETS

The wedding, the bridegroom who (…)

The guest Impressed the brother of the bridegroom who (…)

The brother of the bridegroom who (…)

SUMMARY OF DATA OUTCOMES

Pitch movements, which we assume reflect boundary positions, accord with the difference across languages observed by Hemforth et al. Where overall attachment shifts between pre- and post-verbal placement, RC-Verb is sentence-final. Thus, measures of duration can capture lengthening but not optional pausing.

CONCLUSIONS AND SPECULATIONS

A prosody claim surely draws comfort from the fact that language-common and language-particular aspects of the attachment preference data are indexed in the prosodic patterns of Spanish and English.

But what is the source of contrasting sentence- medial tones in Spanish, variously rising and falling? It remains a matter for formal prosodic theory to determine whether such contours can be projected entirely within the syntax-prosody interface without appeal to, e.g., information structure.