

Same sized sisters: Relative clause attachment to conjoined NPs

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In a seminal paper, Janet D. Fodor (2002) stated that “psycholinguistics cannot escape prosody”. In her so-called Same Size Sister (SSS) principle (“Find a sister of your own size”, Fodor, 1998: 302), she claims that syntactic analysis and in particular structural ambiguity resolution are affected by metrical aspects of prosody. The central point here is the direction of influence: Fodor assumes that prosodic contours are computed very quickly and are used to inform syntactic processes, thus directly influencing syntactic phrasing decisions. According to the Implicit Prosody Hypothesis (IPH), Fodor further assumes that this prosodic explanation can also be applied to silent reading since readers automatically compute a prosodic representation of the sentence even while reading silently. Therefore, even in reading experiments, psycholinguistics cannot escape prosody because it always plays an important role in informing syntactic analysis.

We applied this hypothesis to the attachment of relative clauses to conjoined relative clauses in French sentences like (1-3).

- (1) **Les romans** et les films qui parlent d'amour m'intéressent.

Lit.: Novels and movies that talk about love interest me.

I am interested in novels and films that talk about love.

- (2) **Les romans étrangers** et les films qui parlent d'amour m'intéressent

Lit.: Foreign novels and movies that talk about love interest me.

I am interested in foreign novels and films that talk about love.

- (3) **Les romans étrangers du 19ème siècle** et les films qui parlent d'amour m'intéressent.

19th century foreign novels and movies that talk about love interest me.

I am interested in 19th century foreign novels and films that talk about love.

RC-Attachment is ambiguous in these sentences in that the relative clause can attach to the conjoined NP *les romans et les films* (high attachment) or to the local NP *les films* (low attachment). Incremental processing predicts a preference for attaching the relative clause to the conjoined NP. The SSS, however, predicts that this preference can be modified by the length of the constituents. Attachment to the local NP should become more acceptable with a long first NP (3). In our Experiment, we asked participants to judge the acceptability of high attachment and low attachment interpretations of sentences like (1-3). 30 native French participants judged both interpretations (4a,b) for 15 sentences distributed across 3 lists following a Latin Square design.

- (4) a. Les romans et les films parlent d'amour. / The novels and films talk about love.

b. Seuls les films parlent d'amour. / Only the films talk about love.

As shown in Figure 1, we found a significant interaction between attachment (high/low) and length of the first constituent, both in maximal linear mixed models as well as in Cumulative Link Mixed Models which are better suited for ordinal scales (all $ps < .001$). These data provide a clear confirmation of a Same Sized Sister principle while a preference for balanced semantic/pragmatic weight may play a role as well (Hemforth et al., 2013).

Another open question is whether these results may be due to 1. the experimental paradigm, where participants judge both interpretations for each item; 2. specifics of French prosody. We therefore ran a second questionnaire on 16 English sentences (15 translation equivalent plus one additional item) with 42 native English speakers recruited on Amazon Mechanical Turk. Only the short (1) and the long (3) versions were used in this experiment. Participants only judged one interpretation per item on a 7-point scale. Items were distributed across 4 lists. As shown in Figure 2, we found the same pattern including a statistically significant interaction of length and attachment in English ($p < .001$).

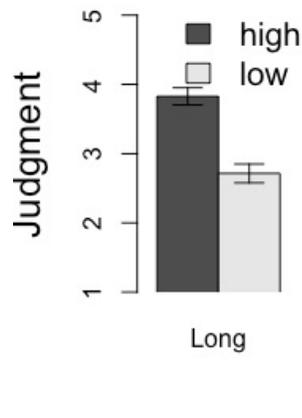


Figure 1: Acceptability judgments for the French experiment

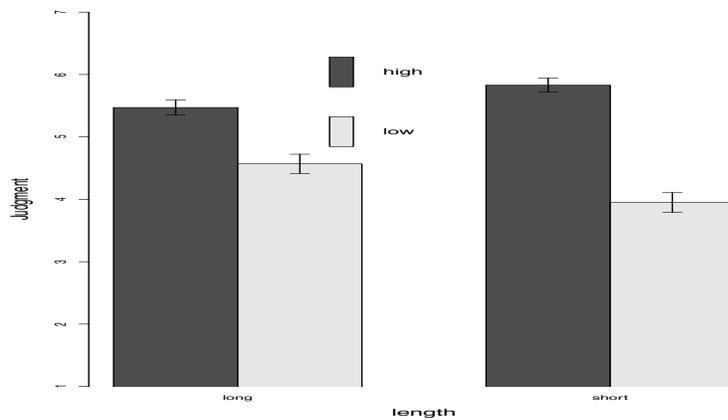


Figure 2: Acceptability judgments for the English experiment

Fodor, J.D. 1998. Learning to Parse? *Journal of Psycholinguistic Research* 27 (2): 285-319.

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