

Attach Me If You Can

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The study investigates processing sensitivity to the selectional properties of the matrix verb which, according to the literature, favors high attachment (HA) of a restrictive relative clause (RC) (Grillo & Costa, 2014). This assumption was offered for Romance languages, where sentences like (1a) and (1b) present identical strings of words, as shown in (1c). The identical word orders in the sentences in (1c) creates an ambiguity between the eventive complement and the DP + RC complement. In English, the target language of our experiment, (1a) / (1b) are different sequences of words. However, there are processing effects of a perception verb too.

A perception verb ‘saw’ can take two types of complements, the eventive (1a) or the entity complement (1b). However, there is a processing preference for the eventive one (1a) (Pozniak et al., 2019; see also Grillo & Costa, 2014). Syntactically, the eventive complement is a clause complement with the relationship of sisterhood between the complex DP ‘the friend of the neighbor’ and the following constituent. This modification excludes attachment of the upcoming constituent to the lower noun within the complex DP, which, according to Grillo and Costa (2014), explains HA preference in RC resolution in Romance languages (1c). In English, Sokolova (2020) reports a slowdown in the reading time (RT) after the complementizer and argues that the eventive structural prediction (1a) gets reanalyzed when the parser encounters the complementizer ‘that’ in the sentences with a full RC (1b) (compare the sequences of words in 1a and 1b). At the same time, Grillo et al (2015) and Sokolova and Slabakova (2022, 2021) report an increased preference for HA in sentences with a perception verb in English. It remains unclear how a perception verb can cause reanalysis in the middle of a sentence and maintain its effect on RC attachment resolution till its end. We address this issue in a 2-by-2 self-paced reading study manipulating the type of the matrix verb (perception vs. non-perception) and the type of structure (full vs. reduced RC) (3). The reduced RC (2b) is structurally ambiguous with the Small Clause eventive complement (2a), same as in Romance languages. Therefore, (3c) should have HA. (3a) should demonstrate a slowdown in the RT after the complementizer ‘that’ adjusting the eventive prediction to the restrictive RC and return LA. (3b) and (3d) should demonstrate the typical for English LA (see Fodor, 2002 for full review).

Our participants are adult speakers of English as L1 (Chicago), L2 (Lisbon, Trondheim, Yerevan) and L3 (Barcelona), upper-intermediate or advanced in their Ln proficiency. The participants’ L1s differ by the amount of the overlap in word order between (1a) – (1b) and (2a) – (2b), as explained in (4). The results elicit the target-like preference for LA in (3a), (3b) and (3d). As predicted, HA is preferred in (3c). The participants read the embedded verb significantly faster in (3c) than in (3d), but noticeably slower than in (3a) and (3b). Response time is the longest for (3c) across the groups. Hypothetically, it is because the parser can be satisfied with the eventive analysis in (3c) till it encounters the comprehension question.

We conclude that parsing routines are sensitive to the sectional properties of a perception verb in both native and non-native languages. Sentences with a structural ambiguity between the eventive and the entity complement return HA after a perception verb. This verb causes a slowdown in the reading time after the complementizer is encountered in the RC and slower response time in the SC. In both cases, this is where the structural prediction for the eventive complement is discarded. The processing behavior is overly similar in native and non-native languages. Sensitivity to a syntactic prompt in Ln does not depend on the availability of a certain structure in the native language of the participants. After the upper-intermediate level, there is no L2 proficiency effect on sentence processing.

Appendix:

(1a) Bill saw [_{CP} (that) [_{DP} the friend of the neighbor] [_{VP} was drinking coffee]]

(1b) Bill saw [_{DP} the friend of the neighbor [_{RC} that was drinking coffee]]

(1c) Mary a écouté [_{DP} la mère de la femme [_{RC} qui parlait de cosmétiques]]

Mary heard the mother-ACC of the woman-Gen who talked about cosmetics.

French, restrictive RC-reading: Mary heard the mother of the woman who talked about cosmetics.

Mary a écouté [_{CP} [_{DP} la mère de la femme] [_{CP} qui parlait de cosmétiques]]]

Mary heard the mother-ACC of the woman-Gen who talked about cosmetics.

French, eventive reading: Mary heard the talking about cosmetics by the mother of the woman.

(2a) Bill saw [_{SC} [_{DP} the friend of the neighbor] [_{VP} drinking coffee]]

(2b) Bill saw [_{DP} the friend of the neighbor [_{RC} drinking coffee]]

(3a) Bill saw the friend of the neighbor that was drinking coffee on the balcony.

(3b) Bill called the friend of the neighbor that was drinking coffee on the balcony.

(3c) Bill saw the friend of the neighbor drinking coffee on the balcony.

(3d) Bill called the friend of the neighbor drinking coffee on the balcony.

(4) Participants' L1s:

Portuguese: allows (1a-b) and (2a) with the infinitive, LA-language (?).

Catalan: allows (1a-b) and (2a) with the infinitive, HA-language (?).

Norwegian: allows (1a-b) and (2a) with the infinitive, LA-language.

Spanish: allows (1a-b) and (2 a-b) with fully identical word orders in either, HA-language

Armenian: allows (2 a-b), full RC is non-ambiguous, HA-language

References:

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