Relative Clause-attachment in European and Brazilian Portuguese: Effects of verb type, tense and variety

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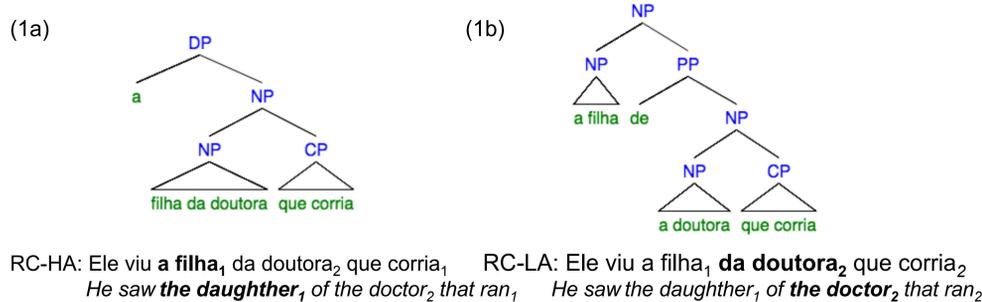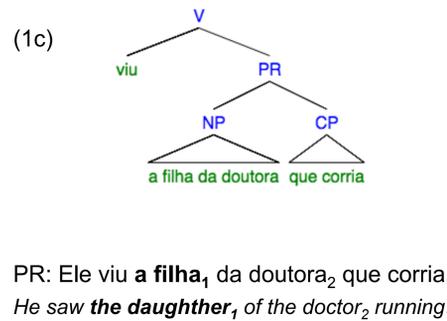1. Univeristé Paris Diderot, 2. Universidade de Lisboa, 3. CNRS

1. Background

Relative clauses (RCs) can be ambiguous between high- or low-attachment (HA/LA) to a complex NP:

(1a) (1b)

RC-HA: Ele viu **a filha$_1$** da doutora$_2$ que corria$_1$
He saw the daughther$_1$ of the doctor$_2$ that ran$_1$

RC-LA: Ele viu a filha$_1$ **da doutora$_2$** que corria$_2$
He saw the daughther$_1$ of the doctor$_2$ that ran$_2$

Cross-linguistic differences in such ambiguity resolution have recently been challenged by Grillo and Costa (2014): HA preference may restrict to languages allowing **Pseudo-relatives (PRs)**, a unitary constituent, complement/ adjunct of perception verbs (e.g., Cinque, 1992), with mandatory HA.

PRs denote perceived events (require imperfective aspect; **matrix and embedded verbs must 'match' in tense**) and have a different structure from RCs:

(1c)

PR: Ele viu **a filha$_1$** da doutora$_2$ que corria$_1$
He saw the daughther$_1$ of the doctor$_2$ running$_1$

Supporting evidence for Italian and European Portuguese (Grillo et al., 2013) comes from offline questionnaires contrasting Perception and Stative verbs (i.e., taking/ not taking PRs, e.g., *see/ live with*).

Further research (Grillo et al., 2015) showed a boost in HA choices in English (non-PR language) sentences with perception (vs. stative) predicates, **suggesting an effect of 'event-taking' predicates beyond PR availability**.

2. Our Study

We investigated further this hypothesis in European (EP) and Brazilian (BP) Portuguese. Portuguese allows PRs (for EP, Barros de Brito, 1995), although the two varieties may differ in their availability. Evidence for basic attachment preferences in EP and BP is mixed (e.g., Maia et al., 2007).

We ran questionnaires in BP and EP that asked for attachment preferences in sentences containing 'that' clauses introduced by Perception/ Stative matrix Verbs in Past/ Present Tense, thus matching/ mismatching the Past (impf.) tense of the clause.

If Perception verbs favour HA beyond PR availability, we may expect to observe increased HA choices also in the mismatching tense condition, where a PR interpretation is not possible. PR availability predicts more HA for Perception verbs with matching tense.

3. Method

24 EP and 20 BP native speakers (22±5) completed an internet based questionnaire. 32 items (plus 64 fillers) in 4 conditions (Verb: perception vs. stative x Tense: match vs. mismatch) were presented alongside the attachment question (e.g., *Who ran the marathon?*) and two possible answers (*the daugther*, *the doctor*).

O Mário viu$_{[Past]}$ a filha da doutora que corria$_{[Past impf.]}$ a maratona. — Perc. Match
Mario saw the daughter of the doctor that ran the marathon.

O Mário vê$_{[Pres]}$ a filha da doutora que corria$_{[Past impf.]}$ a maratona. — Perc. Mismatch
Mario sees the daughter of the doctor that ran the marathon.

O Mário viveu$_{[Past]}$ com a filha da doutora que corria$_{[Past impf.]}$ a maratona. — Stative Match
Mario lived with the daughter of the doctor that ran the marathon.

O Mário vive$_{[Pres]}$ com a filha da doutora que corria$_{[Past impf.]}$ a maratona. — Stative Mismatch
Mario lives with the daughter of the doctor that ran the marathon.

4. Results

A (maximal) mixed logit model on the answers (NP1-HA, 1 vs. NP2-LA, 0) predicts a preference for HA with Perception verbs (0.6 vs. 0.4 for Stative verbs). Marginal interaction of Verb type and Tense (Perception verbs with Matching tense boost HA). EP elicits also more HA choices.

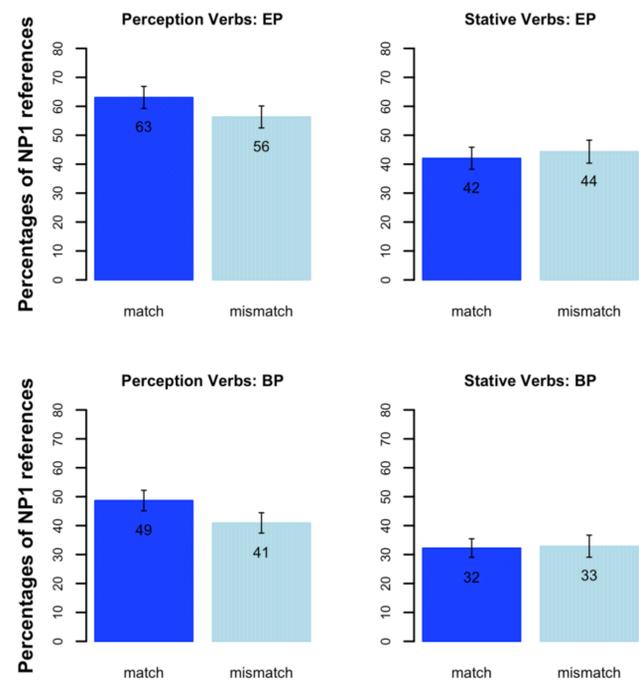| Probability of selecting NP1				
Predictors	Est.	SE	z value	Pr(>|z|)
(Intercept)	-0.28	0.25	-1.15	0.25
verb [perc,-0.5; stative,0.5]	**-0.81**	**0.23**	**-3.57**	**<0.01** ***
variety [BP,-0.5; EP,0.5]	**0.74**	**0.38**	**1.93**	**0.05** .
tense [match-0.5; mismatch,0.5]	-0.16	0.14	-1.12	0.26
verb:variety	-0.29	0.33	-0.88	0.38
verb:tense	0.48	0.27	1.74	0.08 .
variety:tense	0.11	0.27	0.42	0.68
verb:variety:tense	0.12	0.54	0.22	0.83

5. Conclusions

Perception verbs attracted more HA even in a context incompatible with a PR structure, across varieties, although there was a trend for HA boost to be higher in the PR compatible context. BP still shows overall LA preference, also not explained by PR (un)availability. Our results call for further investigation of how 'event-taking' predicates more generally favour HA.

Preliminary online evidence

Mario saw the daughter of the doctor that ran the marathon

Barros de Brito (1995). Sobre algumas construções pseudorelativas em Português. *Línguas e Literaturas*.
Cinque (1992). The Pseudo-Relative and Acc-ing constructions after verbs of perception. *University of Venice working papers in linguistics*. Università di Venezia.
Grillo & Costa (2014). A novel argument for the universality of parsing principles. *Cognition*, 133.
Grillo, Costa, Fernandes, & Santi, (2015). Highs and lows in English attachment. *Cognition*, 144.
Grillo, Tomaz, Lourenço Gomes & Santi, (2013, September). *Pseudo relatives vs. relative clauses: greater preference, lower costs*. Poster presented at the19th AMLaP, Marseille, France.
Maia, Fernández, Costa, & Lourenço-Gomes, (2007). Early and late preferences in relative clause attachment in Portuguese and Spanish. *Journal of Portuguese Linguistics*, 6, 227-250.