

Strategies of GAP avoidance in Romance

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Filler-gap dependencies have been a central topic in sentence processing research. These involve the movement of an element (the filler) from a location at which it receives its thematic role (the gap), and in which a trace remains. Most previous psycholinguistic research investigated the active search of a gap once a filler has been identified (this is known as the Active Filler Hypothesis). A different experimental question with respect to filler-gap dependencies refers to the first clause of the Minimal Chain Principle (De Vincenzi, 1991), which states that filler-gap dependencies should not be posited except when necessary.

In a recent study, Staub, Foppolo, Donati and Cecchetto (2018) provided evidence that structural principles guide the processing of filler-gap dependencies. One limitation of this study was the fact that the structures tested differed for the attachment site of the disambiguating clause (complement vs. adjunct) thus their results could be interpreted in terms of the Minimal Attachment principle (Clifton & Frazier, 1989) or consistently with the first clause of the MCP. To further test the first clause of the Minimal Chain Principle, we extended this line of research by investigating two temporarily ambiguous structures in Italian and in French that only differ with respect to the presence/absence of the filler-gap dependency.

In **Italian**, we investigated sentences with *che* corresponding either to a *that* in a declarative complement clause (DC) or to a *what* in an indirect question (IQ), as in (1). In **French**, we investigated a similar ambiguous construction (*à ce que*) that can correspond to a DC or a Free Relative (FR), as in (2):

- (1) **a.** Ho *capito* che fare gli esami è difficile [I understood that taking exams is difficult, DC]
b. Ho *capito* che fare _ agli esami difficili [I understood what to do _ at difficult exams, IQ]
c. Ho *chiesto* che fare _ agli esami difficili [I asked what to do _ at difficult exams, IQ]
- (2) **a.** Léo *tient* à ce que sa soeur offre un cadeau à leur mère.
[L. cares that his sister offers a present to their mother, DC]
b. Léo *tient* à ce que sa soeur offre _ à leur mère.
[L. cares about what his sister offers _ to their mother, FR]
c. Léo *apprécie* ce que sa soeur offre _ à leur mère.
[L. appreciates what his sister offers _ to their mother, FR]

In both languages, condition **(a)** is a declarative with no gap, **(b)** contains a gap but the verb allows a continuation with no gap, **(c)** contains a gap but the verb (+ *che/ce que*) is only compatible with a continuation with gap. We conducted two **acceptability judgment studies** with 67 adult Italian participants and 70 adult French participants, in which they had to rate (on a 7-point Likert scale for Italian and on a 10-point Likert scale for French) 24 test sentences, presented in one of the 3 conditions above (Table 1). Materials also included 24 fillers that ranged from being fully grammatical to fully ungrammatical. A significant difference across conditions was found (all $p < .01$) in both languages. Pairwise comparisons showed a preference for (a) and (c) sentences over (b) sentences in Italian and for (a) and (c) sentences over (b) sentences in French, significant by subjects (all $p < .05$) providing evidence for a difficulty in (b) when a continuation with no gap was possible. We further ran a **self-paced reading** experiment in Italian (N=50) and in French (N=32) using the same material and found a penalty in the disambiguating word (e.g. *agli* vs. *gli*) in (b) vs. (a) in Italian (Figure 1), and in (b) vs. (c) in French (Figure 2) after the embedded verb.

We interpret our results as evidence for structural parsing strategies during sentence processing, in which a structure that does not involve a gap is preferred over one that does, providing further evidence for a strategy of gap avoidance.

Italian (scale 1-7) N=67		French (scale 1-10) N=70	
Condition	Mean (SD)	Condition	Mean (SD)
(a)	5.54 (0.91)	(a)	6.53 (1.68)
(b)	2.81 (1.16)	(b)	5.95 (1.54)
(c)	3.16 (1.21)	(c)	7.93 (1.28)

Table 1. Mean ratings across conditions and languages in the acceptability judgment studies.

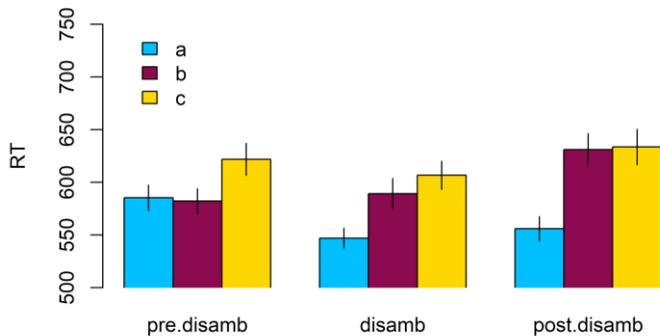


Figure 1. RTs in the self-paced reading study in Italian on the disambiguation region (*disamb*) in condition (b) in which a continuation with a gap is revealed (i.e. the word *agli* in (1b)) and for the regions immediately preceding and following it. *Pre.disamb* region corresponds to the disambiguation point in (c), when a continuation with a gap is revealed (eg., *fare* in (1c)).

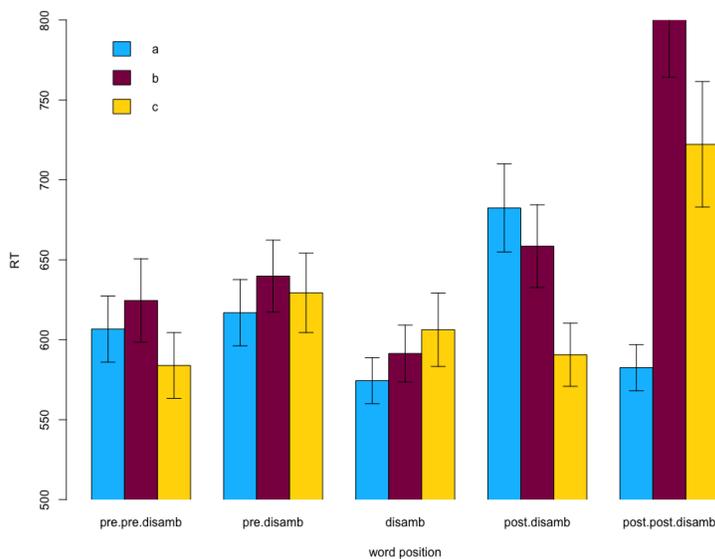


Figure 2. RTs in the self-paced reading study in French on the disambiguation region in condition (b) in which a continuation with a gap is revealed (i.e. at the words after the embedded verb, *à leur mère* in (2)) and for the regions preceding and following it.