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# The aboutness hypothesis: a new way to explain relative clause processing

Céline Pozniak, Barbara Hemforth

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## Subject and object relative clauses: an old debate

### (1) Subject Relative Clause (SRC)

L'avocat [CP qui connaît le professeur] va au restaurant.  
The lawyer [CP that knows the teacher] is going to the restaurant.

'The lawyer that knows the teacher is going to the restaurant.'

### (2) Object Relative Clause (ORC)

L'avocat [CP que le professeur connaît] va au restaurant.  
The lawyer [CP that the teacher knows] is going to the restaurant.

'The lawyer that the teacher knows is going to the restaurant.'

- SRC generally easier to process in many languages (Lau and Tanaka, 2021)

## How to explain this asymmetry?

- syntax-based factors: relativized minimality (Friedmann et al., 2009; Rizzi, 1990)
- memory-based factors: linear distance (Gibson, 1998, 2000)
- semantic/discourse-based factors: thematic roles & animacy (Gennari and MacDonald, 2009), topichood hypothesis (Roland et al., 2012)

## Looking back at the definition of a RC

Restrictive RCs usually modify a nominal antecedent (Abeillé and Godard, 2021; Bianchi, 2002) and convey information about it that can be used to identify the corresponding referent in the current discourse universe

### Two implications:

- The antecedent is the aboutness topic of the RC, *the lawyer* here (Krifka, 2008)
- Given the function of a restrictive RC, the antecedent is very unlikely to be the current discourse topic

## What about implicit causality?

- Implicit causality is a feature of some verbs biasing for the principal causer of the event they describe (Caramazza et al., 1977)

### (4) Example of subject-biased verbs

The lawyer troubles the teacher because he ...

### (5) Example of object-biased verbs

The lawyer hates the teacher because he ...

## References

Abeillé, A. and Godard, D. (2021). *La grande grammaire du français*. Éditions Actes Sud.  
 Bianchi, V. (2002). Headed relative clauses in generative syntax, part 1. *Glott International*, 6(7):197-204.  
 Caramazza, A., Grober, E., Garvey, C., and Yates, J. (1977). Comprehension of anaphoric pronouns. *Journal of verbal learning and verbal behavior*, 16(5):601-609.  
 Cook, P. and Bildhauer, F. (2011). Annotating information structure: The case of topic. *Beyond semantics: Corpus based investigations of pragmatic and discourse phenomena*, pages 45-56.  
 Friedmann, N., Belletti, A., and Rizzi, L. (2009). Relativized relatives: Types of intervention in the acquisition of a-bar dependencies. *Lingua*, 119(1):67-88.  
 Gennari, S. P. and MacDonald, M. C. (2009). Linking production and comprehension processes: The case of relative clauses. *Cognition*, 111(1):1-23.  
 Gibson, E. (1998). Linguistic complexity: Locality of syntactic dependencies. *Cognition*, 68(1):1-76.  
 Gibson, E. (2000). The dependency locality theory: A distance-based theory of linguistic complexity. *Image, language, brain*, 2000:95-126.  
 Krifka, M. (2008). Basic notions of information structure. *Acta Linguistica Hungarica*, 55(3-4):243-276.  
 Krifka, M., Féry, C., and Fanselow, G. (2007). Interdisciplinary studies on information structure 6: The notions of information structure.  
 Lau, E. and Tanaka, N. (2021). The subject advantage in relative clauses: A review. *Glossa: a journal of general linguistics*, 6(1).  
 Rizzi, L. (1990). *Relativized minimality*. The MIT Press.  
 Roland, D., Mauner, G., O'Meara, C., and Yun, H. (2012). Discourse expectations and relative clause processing. *Journal of Memory and Language*, 66(3):479-508.

## Implicit causality & function of the RC - The Aboutness Hypothesis

**Aboutness hypothesis** When all factors are controlled for, a relative clause is most acceptable and easiest to process when everything contributes to making the antecedent its optimal aboutness topic

### Predictions

- ORCs with subject-biased verbs are harder to process than ORCs with object-biased verbs because of the foregrounding conflict
- Verb bias may play a less important role in SRC because of the special status of subjects as default topics (Cook and Bildhauer, 2011; Krifka et al., 2007)

(6) *The lawyer* [that the teacher troubles]

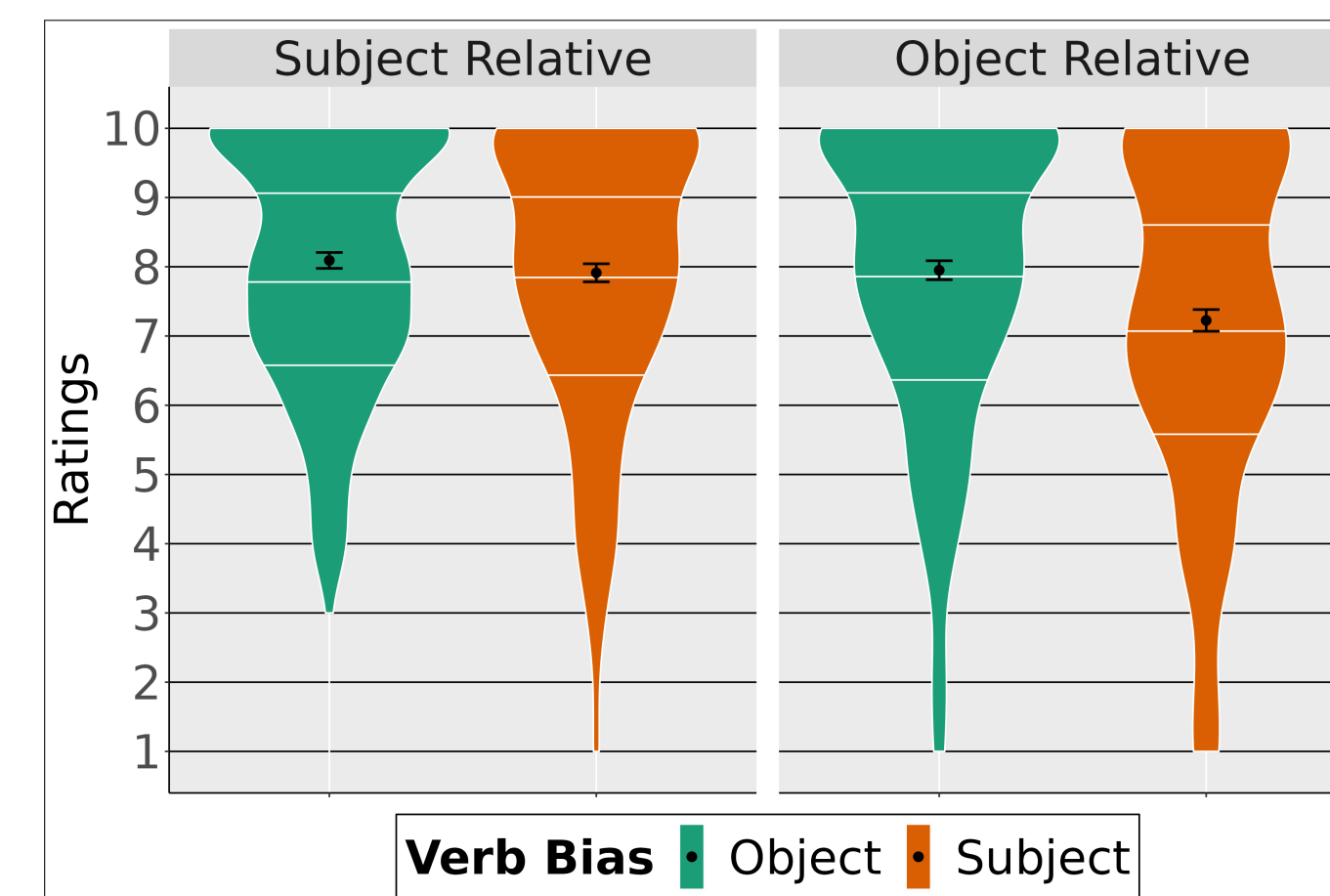
(8) *The lawyer* [that troubles the teacher]

(7) *The lawyer* [that the teacher hates]

(9) *The lawyer* [that hates the teacher]

## Exp. 1: Acceptability judgements on SRCs and ORCs

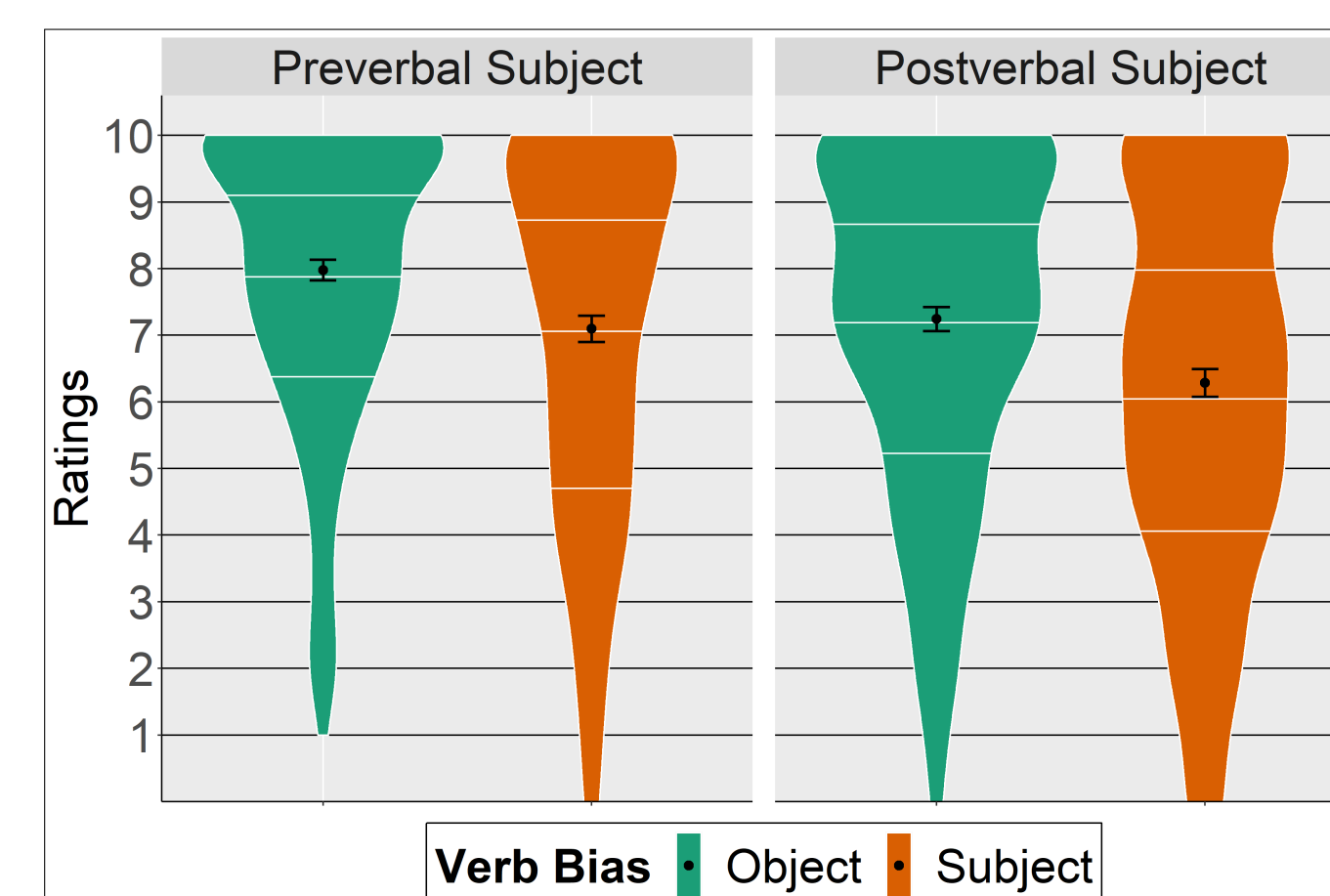
SR	Subject-biased Verb	Le professeur qui affole l'avocat ne donnera plus ce cours au prochain semestre. The teacher that worries the lawyer will not give classes next semester.
	Object-biased Verb	Le professeur qui choisit l'avocat ne donnera plus ce cours au prochain semestre. The teacher that employs the lawyer will not give classes next semester.
OR	Subject-biased Verb	Le professeur que l'avocat affole ne donnera plus ce cours au prochain semestre. The teacher that the lawyer worries will not give classes next semester.
	Object-biased Verb	Le professeur que l'avocat choisit ne donnera plus ce cours au prochain semestre. The teacher that the lawyer employs will not give classes next semester.



N=48 French L1 speakers, 20 items + 45 fillers

## Exp. 2: Acceptability judgements depending on subject position (ORCs)

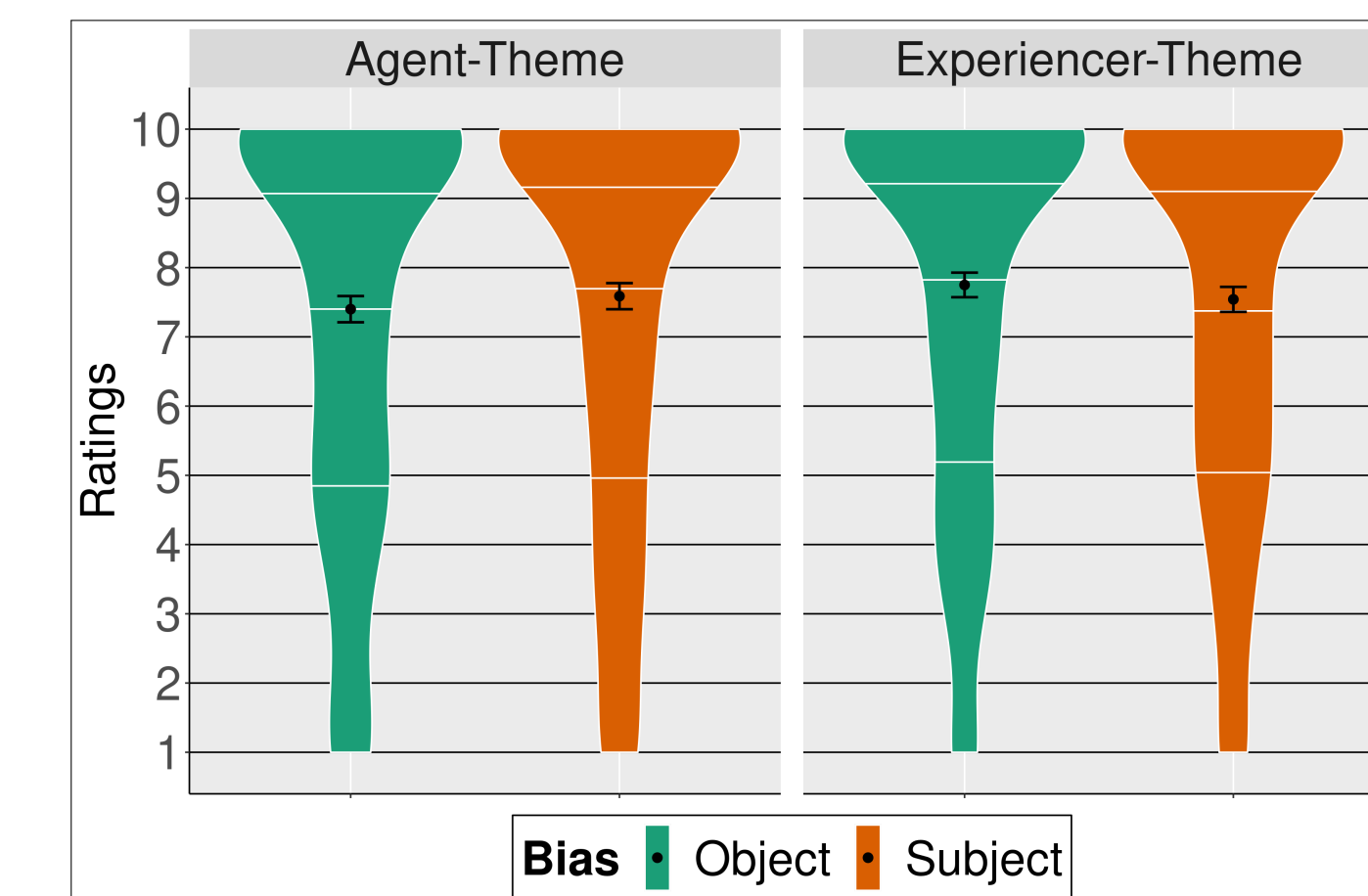
Preverbal subject	Subject-biased Verb	Le professeur que l'avocat affole ne donnera plus ce cours au prochain semestre. The teacher that the lawyer worries will not give classes next semester.
	Object-biased Verb	Le professeur que l'avocat choisit ne donnera plus ce cours au prochain semestre. The teacher that the lawyer chooses will not give classes next semester.
Postverbal subject	Subject-biased Verb	Le professeur qu'affole l'avocat ne donnera plus ce cours au prochain semestre. The teacher that <sub>obj</sub> worries the lawyer will not give classes next semester.
	Object-biased Verb	Le professeur que choisit l'avocat ne donnera plus ce cours au prochain semestre. The teacher that <sub>obj</sub> chooses the lawyer will not give classes next semester.



N=34 French L1 speakers, 20 items + 39 fillers

## Exp. 3: Acceptability judgements depending on thematic roles (ORCs)

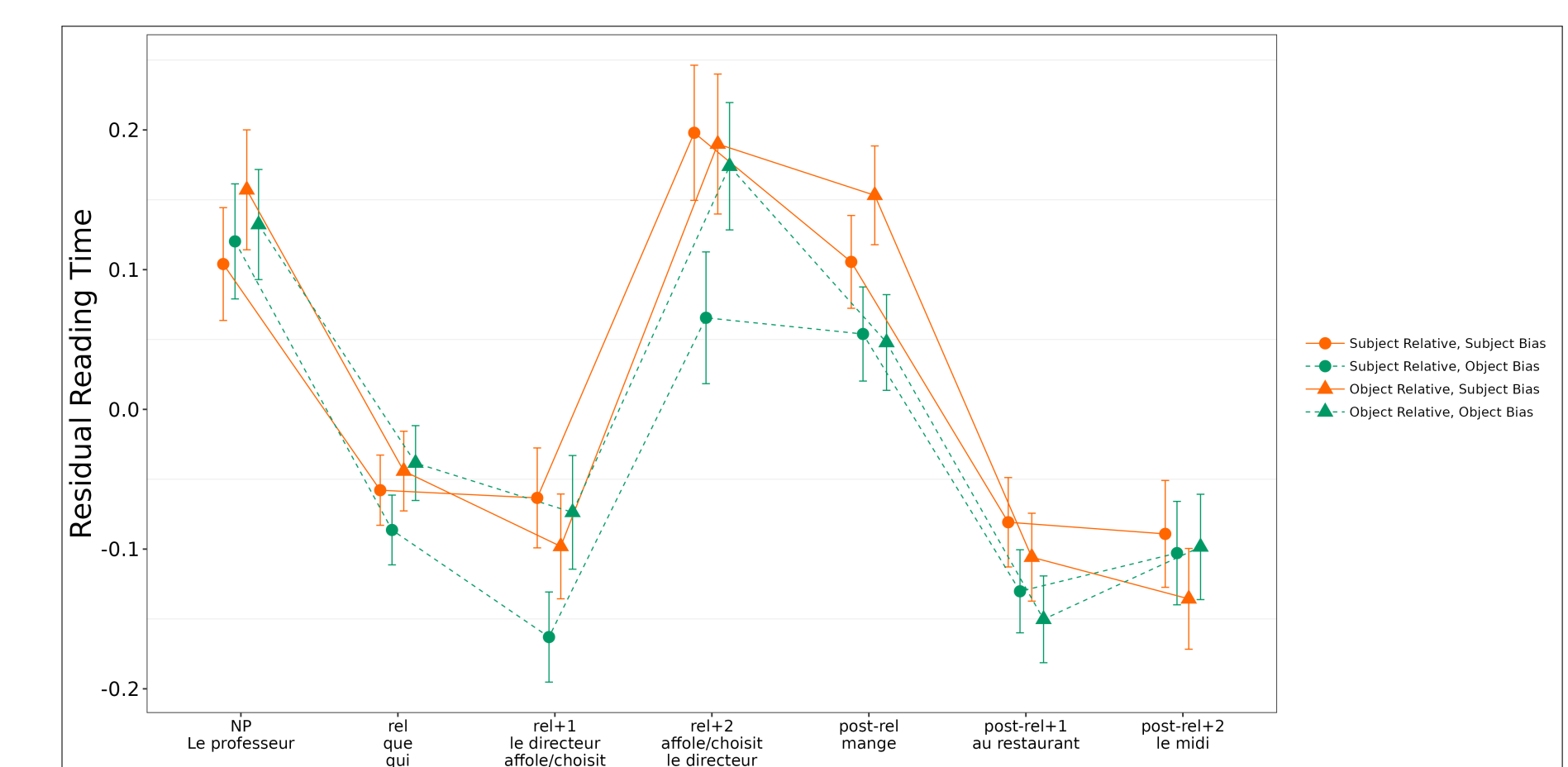
Item with agent-theme verb	Subject-biased Verb	Le professeur que l'assistant contacte mange au restaurant le midi. The professor that the assistant contacts eats in the restaurant for lunch.
	Object-biased Verb	Le professeur que l'assistant engage mange au restaurant le midi. The professor that the assistant hires eats in the restaurant for lunch.
Item with experiencer-theme verb	Subject-biased Verb	Le gendarme que le pompier impressionne fait du tennis toutes les semaines. The policeman that the firefighter impresses plays tennis every week.
	Object-biased Verb	Le gendarme que le pompier encourage fait du tennis toutes les semaines. The policeman that the firefighter supports plays tennis every week.



N=48 French L1 speakers, 20 items + 44 fillers

## Exp. 4: Self-paced reading task on SRCs and ORCs

SR	Subject-biased Verb	Le professeur qui affole l'avocat mange au restaurant le midi. The teacher that worries the lawyer eats in the restaurant for lunch.
	Object-biased Verb	Le professeur qui choisit l'avocat mange au restaurant le midi. The teacher that employs the lawyer eats in the restaurant for lunch.
OR	Subject-biased Verb	Le professeur que l'avocat affole mange au restaurant le midi. The teacher that the lawyer worries eats in the restaurant for lunch.
	Object-biased Verb	Le professeur que l'avocat choisit mange au restaurant le midi. The teacher that the lawyer employs eats in the restaurant for lunch.



N=40 French L1 speakers, 20 items + 42 fillers

## Conclusion

- Exp. 1 and Exp. 4: ORCs with subject-biased verbs were the least acceptable & understood
- Exp. 2 and Exp. 3: manipulating the subject position in object relative clauses and thematic roles suggested that syntactic and thematic role factors alone cannot explain object relative clause processing
- We propose the aboutness hypothesis, assuming that factors more in line with discourse constraints linked to the function of relative clauses and to implicit causality need to be taken into account to understand the asymmetry in SRC and ORC processing