

# How to get speakers to disambiguate ambiguous sentences

## A Forced Choice study on French motion/ location expressions

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### Introduction

- In French, the direction of a self-caused motion event is typically expressed in the main verb, making it a verb-framed language in the sense of Talmy (1991)
- Sentences with a main Manner verb and a Goal PP have been claimed to have a locative reading only (see 1a) (Slobin & Hoiting 1994; i.a.)

(1) *Il court dans le jardin.*

- 'He runs in the garden.'
- 'He runs into the garden.'

- It has been shown, however, that for such sentences, a boundary-crossing reading as in (1b) is possible (Pourcel & Kopecka 2005; Aurnague 2008; Hendricks & Hickmann 2011; Kopecka 2009; Sarda 2019)
- Some Manner verbs seem to allow a boundary-crossing reading, others not (Aurnague 2008; Kopecka 2009, Fortis 2010; Sarda 2019)
- Research question:** What verbs allow the boundary-crossing reading and what reading is preferred?

### Methods, Materials, Participants

- To our knowledge, this is the first experimental study on the topic
- Method:** Ambiguous sentences were presented with two contexts, both clearly suggesting one of the two readings
- Participants chose the best context for each sentence
- Test items:** 18 combinations of
  - 3 prepositions
    - 2 ambiguous: *dans* 'in/into', *en dehors de* 'outside/out of'
    - 1 clearly directional: *à travers* 'through'
  - 6 Manner of motion verbs
    - 3 that can supposedly have SF readings: (Fortis 2010) *courir* 'to run', *sauter* 'to jump', *ramper* 'to crawl'
    - 3 that can supposedly not have SF readings: *nager* 'to swim', *marcher* 'to walk', *danser* 'to dance'
- Each participant gave a judgment for 3 test items (plus 9 fillers)
- Order of the two contexts was counterbalanced
- Participants:** 61 monolingual French speakers recruited through Prolific in August 2023
- Experiment was carried out online with Labvanced

Choisissez le paragraphe pour lequel la phrase du haut s'insère mieux dans le blanc.

Elle nage dans la grotte.

☐ Une femme nage en mer et voit l'entrée d'une grotte marine.

Après y être entrée, elle sort de l'eau et admire les formations rocheuses.

☐ Une femme se trouve dans une grotte marine avec des formations rocheuses impressionnantes.

Tout en nageant, elle admire les formations rocheuses.

Suivant

Choose the paragraph where the sentence fits best in the blank.

She swims in(to) the cave.

☐ A woman swims in the sea and sees the entrance of a cave.

After she went inside, she gets out of the water and admires the rock formations.

☐ A woman is inside a cave with impressive rock formations.

While she swims, she admires the rock formations.

Fig. 1: Presentation of French test items with English translations

### Hypotheses

**Hypothesis 1:** Ambiguous prepositions (*dans* 'in/into', *en dehors de* 'outside/out of') behave differently to the directional preposition (*à travers* 'through'): Less boundary-crossing readings are expected with the ambiguous prepositions.

**Hypothesis 2:** Manner verbs behave differently with regard to the extent with which they allow the boundary-crossing reading: They fall into two classes, one allowing the BC reading, the other one not (cf Fortis 2010).

### Results

- Statistical analyses were carried out with R (R Core Team 2021)
- Results were examined with two mixed-effects logistic regression models using the glmer function contained in the package lme4 (Bates et al. 2015)
- The first model examined the likelihood of the interpretation as a boundary-crossing event depending on the type of preposition and the verb class

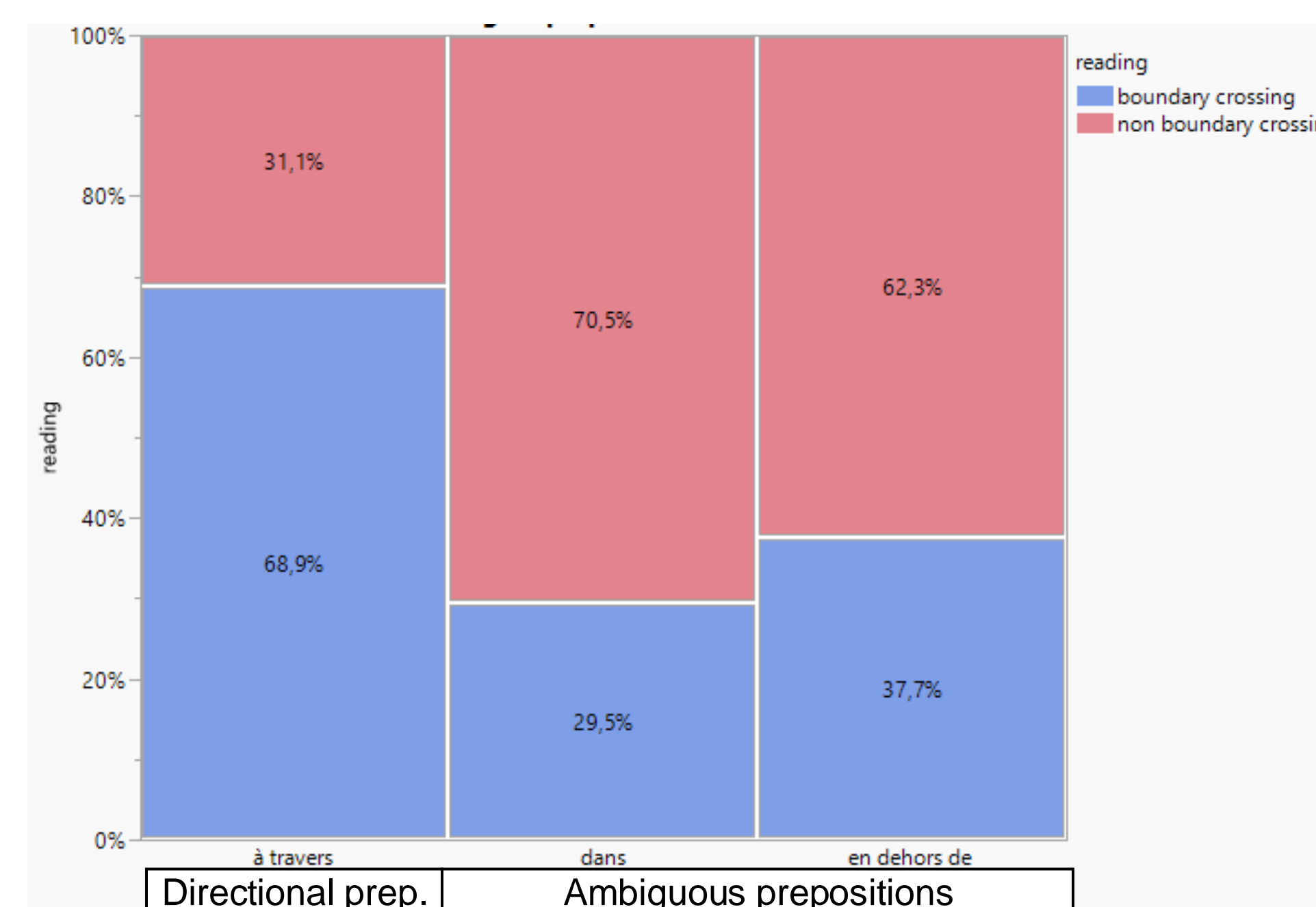


Fig. 2 (Non-) boundary-crossing readings with different prepositions

- Verb class 1 significantly increased the likelihood of a boundary-crossing interpretation in relation to verb class 2 (Estimate = 1.6054,  $p < 0.001$ )

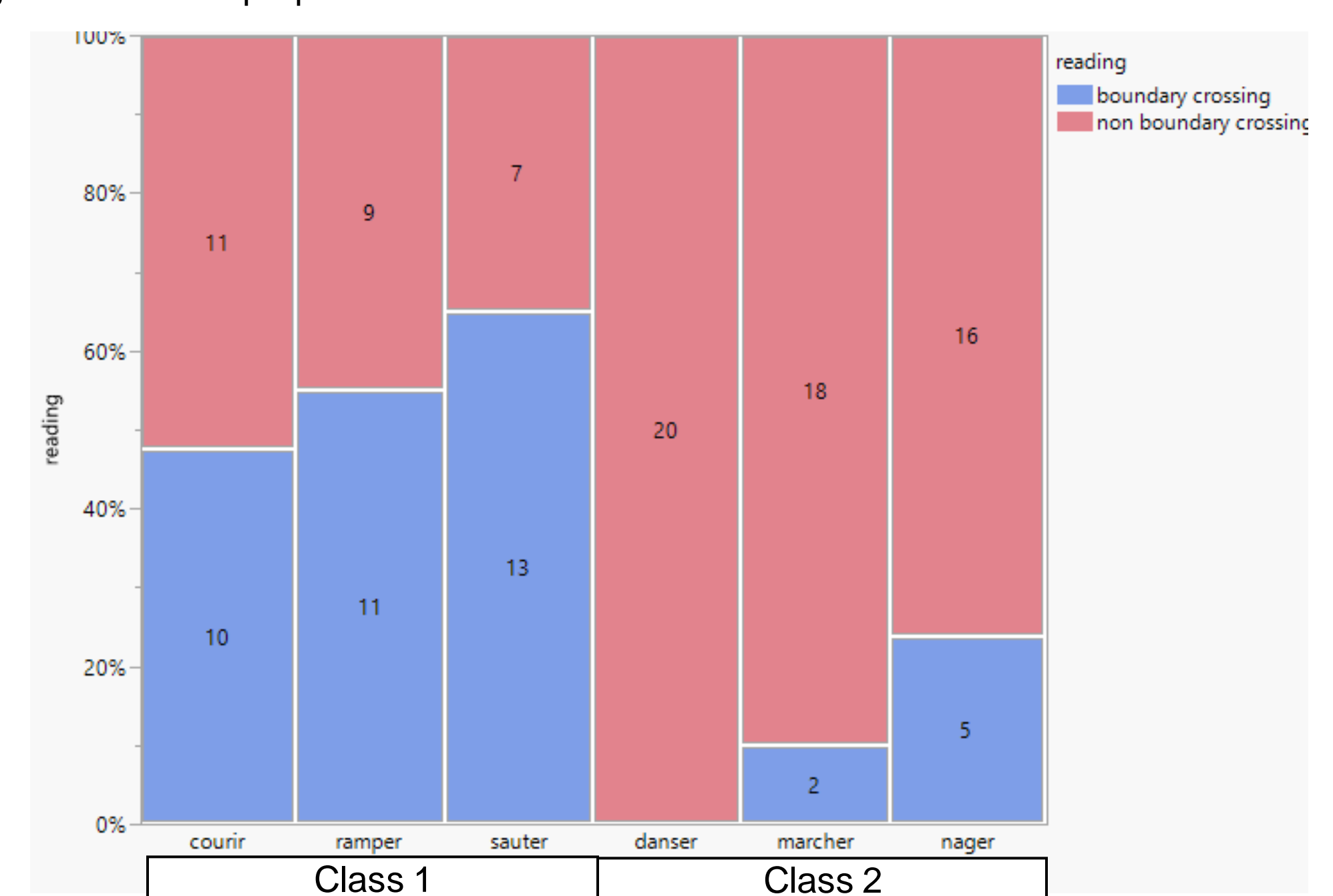


Fig. 3 (Non-) boundary-crossing readings with different verbs

- The second model examined the interaction of individual verbs and prepositions with regard to boundary-crossing interpretations
- No significant difference between the two ambiguous prepositions *dans* and *en dehors de* was observed ( $p = 0,31$ )
- Significant difference between *danser* and *nager* ( $p = 0,002$ )
- No significant difference between verbs of class 1

### Conclusions

- First experimental evidence that a boundary-crossing reading is available for this sentence type.
- Advantage of our experimental approach: Comparable results for different lexical items under the same conditions.
- Hypothesis 1 confirmed: Less boundary crossing-readings for ambiguous prepositions than for directional one.
- Hypothesis 2 confirmed: Different preferences for BC reading with different Manner verbs. They seem to fall into two classes, but the status of *nager* is unclear; further research is required in this regard.
- As our results come fairly close to those of the corpus study in Kopecka (2009), the experimental method designed here seems to be appropriate to investigate the ambiguous sentence type under discussion.
- Next step: Extend the experiment to include more prepositions

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