



# Things that should affect agreement attraction in comprehension, but don't

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## Introduction

Agreement attraction occurs in production and comprehension, but is the underlying mechanism the same?

If so, we would expect the same factors to impact attraction in both.

We look at 2 properties known to impact agreement production in comprehension:

Notional number and plausibility

\*The **key** to the **cabinets** **are** rusty.

↑  
Attractor: structurally irrelevant noun matching the verb's number marking

**Production:** increased agreement error rates

**Comprehension:** illusory licensing of agreement violations

## Exp. 1: Notional Number

Notional number has an impact on error rates in production (Brehm & Bock, 2013; Humphreys & Bock, 2005), but it does **not** control agreement in the grammar (*one point zero children*).

Is attraction in comprehension nevertheless affected by notional number?

### Experiment 1 (N = 24)

- Word-by-word self-paced reading; 24 experimental items
- 2x2 design crossing notional number of syntactically singular collective in attractor position and grammaticality (verb number)

Preamble for collected group reading (notionally singular)

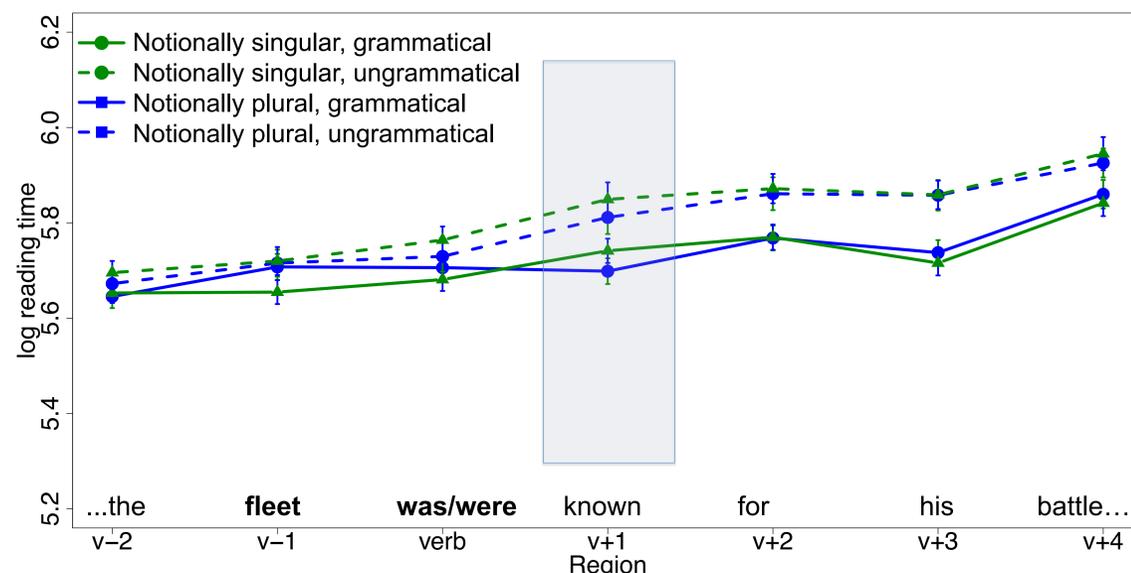
*The **fleet** was powerful and looked very impressive.*

Preamble for distributed group reading (notionally plural)

*The **fleet** consisted of forty ships and looked very impressive.*

Critical Sentence:

*The captain of the **fleet** was/were known for his battle skills.*



**No attraction with notionally plural (but syntactically singular) collectives, contrasts with production findings.**

(interaction : verb region  $t = -1.5$ , spillover region  $t = 0.1$ )

## Exp. 2: Plausibility

Agreement error rates in production are higher when the attractor is a plausible subject for the verb (Thornton & MacDonald, 2003), but the grammatical requirements of subject-verb agreement does not depend on the semantic requirements of the verb.

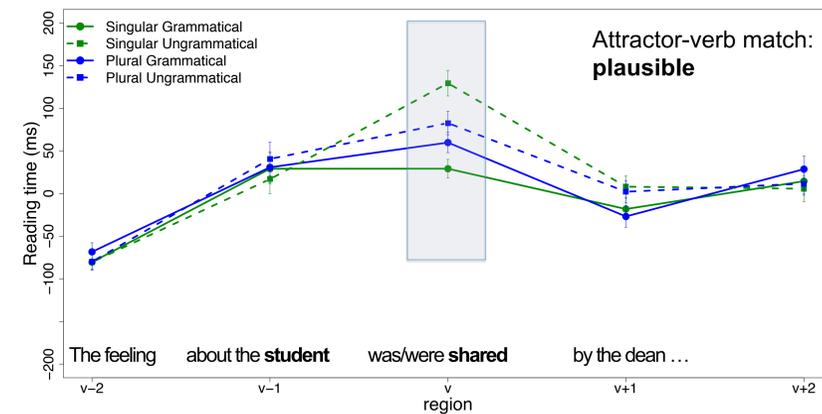
Is attraction in comprehension nevertheless affected by the plausibility match between attractor and verb?

Attractor is a plausible subject for the verb:

*The feeling about the undergraduate **student/s** was/were noticed by the dean at the university.*

Attractor is not a plausible subject for the verb:

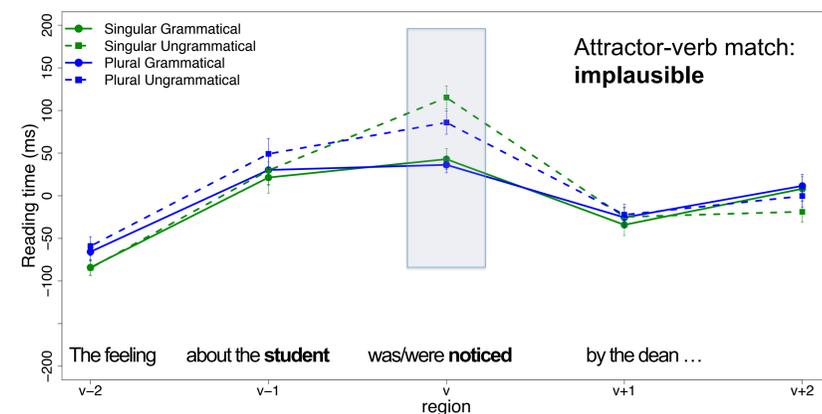
*The feeling about the undergraduate **student/s** was/were shared by the dean at the university.*



### Experiment 2 (N=93 on MTurk)

- phrase-by-phrase self-paced reading; 48 experimental items
- 2x2x2 design crossing attractor number, grammaticality, and plausibility

**Attraction not modulated by plausibility, unlike in production.**



### Results

- reduced slowdown in ungrammatical sentences with plural vs singular attractors (interaction:  $t = -3.0$ )
- reduction in slowdown numerically larger with plausible attractor-verb match, but not statistically significant (3-way interaction:  $t = 1.6$ )

## Summary

- Lack of notional/plausibility effects consistent with different mechanisms
- The mechanism underlying agreement attraction in comprehension does not use information that is irrelevant to the agreement dependency in the grammar
- Suggestion: Agreement attraction in production affected by conceptual information during planning, but attraction in comprehension due to low-level feature-checking process

## References

Brehm & Bock (2013), *Cognition*, 128(2), 149-169. ■ Humphreys & Bock (2005), *Psychonomic Bulletin & Review*, 12, 689-695. ■ Thornton & MacDonald (2003), *Journal of Memory and Language*, 48, 740-759.