Use/Mention ambiguities in comprehension: Evidence from agreement attraction

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The comprehension of lexical ambiguity reveals how sentence processing can recruit preceding context to parse input. Unlike with most homonyms [1,2], comprehenders **selectively access** subordinate (less frequent) meanings of cross-category homonyms (e.g. *duck*$_{N/V}$) when preceding syntactic context requires the category of that meaning [3]. Here, we investigate selective access of an unstudied ambiguity between **Uses** and **Mentions** of words [4] in English.

In contrast to typical **Uses** of words (1a), a **Mention** of a single word (1b) always serves as a noun with singular number describing a particular linguistic object. Though infrequent, Mention interpretations can be virtually unambiguous in context due to punctuation and unique adjunctive syntax: e.g., after *The word "...*, a Mention might be confidently predicted.

But can Mention interpretations be selectively accessed for nouns? A **minimal selective access** hypothesis might hold that syntactic category expectations, privileged in processing [5], are the only way to immediately override dominant meanings online. This would not expect selective access of a Mention in (1b). In contrast, a **flexible selective access** hypothesis that admits potential use of punctuation or syntactic cues beyond category could predict this effect.

To arbitrate between these hypotheses, we can look for evidence for the interpretation of plural number on a Mentioned plural noun—this will only be active in a parse if access was not selective and the Use interpretation was considered. In the present study, we probe for the activation of this plurality indirectly using a well-studied effect triggered by a plural-containing modifier: agreement attraction (AA) in self-paced reading [6, i.m.a.].

METHOD Native English speakers from Prolific (*n* = 72) read 24 critical items (2) crossing the number of a Mentioned noun (SG/PL) and agreement grammaticality (GRAM/UNGRAM). Items were displayed with 88 fillers, including 24 simple AA items (3) modeled on [6]. Only the **minimal selective access** hypothesis predicts a canonical AA effect, an interaction in SPR response latencies such that PL targets reduce the UNGRAM slowdown on the verb and following regions.

RESULTS We report linear mixed-effects models over residualized log response latencies, with treatment-coding (SG and GRAM baselines) and maximal random effects. We preregistered a stopping rule [9]: finding the predicted interaction in the (3)-like fillers. At *n* = 72, this interaction is not present: region Verb+2 is the closest (β = -0.04, CrI = [-0.11, 0.03]). Accordingly, we plan to continue data collection, and anticipate presenting final results at the conference.

For now, in the critical data we observe only a simple effect of grammaticality at Verb+1 (β = 0.09, CrI = [0.04, 0.15]) such that, in SG, ungrammatical verbs are read more slowly. The same simple effect is trending at Verb+2. We also see an emerging grammaticality X number interaction consistent with AA, strongest at Verb+1, where it still remains just below significance (β = -0.06, CrI = [-0.14, 0.01]).

DISCUSSION Data collected so far provide tentative evidence for agreement attraction generated by Mentioned plural nouns. This would be, novelly, attraction due to lingering misinterpretation [7,8]. Further, it appears to support **minimal selective access**. Despite available contextual cues to Mention readings, regular features of Mentioned nouns still influence processing. By exploiting the unique properties of this ambiguity, this study ultimately suggests clearer limits on the information the parser can use to override default behavior.

(1) a. **Dogs** (*is, are) lying on the sidewalk.
b. The word "**dogs**" (is, *are) written on the sidewalk.

(2) The teacher looked at the exam.

The word { SG: "neighbor" / PL: "neighbors" } unfortunately { GRAM: was / UNGRAM: were } incorrect and it bothered her.

(3) The farmer had stopped maintaining his equipment.

The gate to the { SG: pasture / PL: pastures } unfortunately { GRAM: was / UNGRAM: were } gradually falling down due to disrepair.

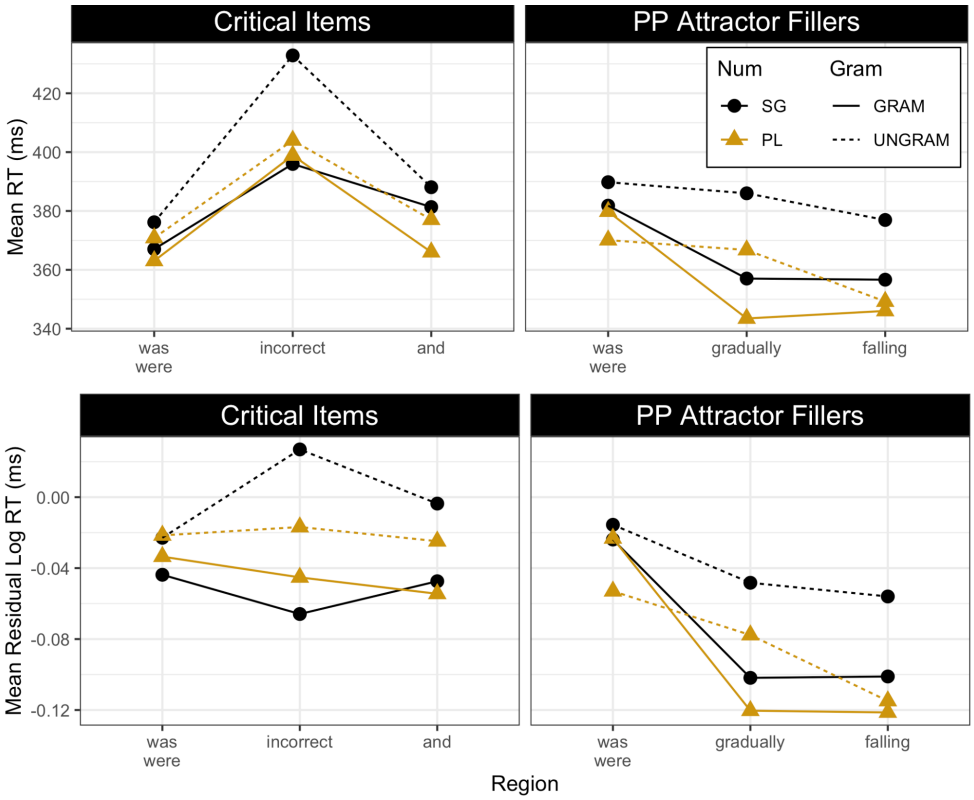

FIGURE 1: Raw RTs and residualized log RTs across the three regions of interest (Verb, Verb+1, Verb+2) for critical items (left) (2) and PP attractor fillers (right) (3). Residualized log RTs were derived from a linear regression by length and position with random intercepts by subject.

REFERENCES **[1]** Rayner & Frazier (1989) *JEP*: *LMC* 15(5). **[2]** Chen & Boland (2008) *Mem & Cog* 36(7). **[3]** Folk & Morris (2003) *Mem & Cog* 31(1). **[4]** Cappelen et al. (2020) "Quotation", *The Stanford Encyclopedia of Philosophy* (Summer 2020). **[5]** McElree & Griffith (1995) *JEP: LMC* 21(1). **[6]** Wagers et al. (2009) *JML* 61(2). **[7]** Christianson et al. (2001) *Cog Psych* 42. **[8]** Slattery et al. (2013) *JML* 69. **[9]** https://osf.io/49fcw/?view_only=5af5096eb9924536a3244857608a938f