

## Non-intervening attraction and the computation of agreement in comprehension

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Agreement attraction (ex.1) has important implications for understanding the real-time computation of linguistic structure. Production studies have examined error rates using elicitation to understand the controlling factors [1,2]; relatively fewer studies target comprehension [3]. However, most structures examined in comprehension contain interposed material between subject and verb, so that the attractor is linearly closer to the verb and locally coherent as its subject [Tabor 2006;ex.1]. It remains unclear whether attraction depends specifically on intervening configurations, and, consequently, to what extent agreement computation is impacted by non-local elements. We considered a novel English attraction construction [4;ex.2], in which the agreeer is linearly adjacent to the verb: consequently, local coherence supports correct agreement. Nevertheless, we find that a distant plural head nearly eliminates effects of agreement violation. These results suggest agreement is driven by the verb's features, perhaps mediated by cue-based retrieval [5], and not features of the agreeing element.

Speaker intuitions indicate that singular-subject/plural-verb mismatches are alleviated when embedded within a relative clause whose head is plural, but not singular (ex.2). Using self-paced-reading, we manipulated the number of the RC head, embedded subject and embedded verb in a 2x2x2 within-subjects design (ex.3). A main effect of ungrammaticality one word downstream from the verb showed that violations were detected immediately ( $F_1(1,47)=22;p<0.001$ ); however, the slowdown for the RCHEAD:plural/SUBJ:singular violation was much smaller than other violations, and not reliable ( $t=1.0,p=0.31$ ; other  $ps<0.01$ ).

[2], among others, demonstrated a symmetrical pattern when attractors intervene: RTs are reduced in ungrammatical sentences, but increased in grammatical ones. This pattern could be explained, they argued, with a single process where a head's number is sometimes overwritten by nearby features, in both grammatical and ungrammatical conditions. In addition to our RC conditions, we tested [2]'s materials, and replicated their symmetrical pattern. Importantly, we failed to observe increased RTs for grammatical attractor RC materials, which is problematic for unified head-overwriting accounts.

Our results suggest the appearance of symmetry between ungrammatical and grammatical attractor effects may be misleading. The decreased RTs in the ungrammatical cases can be explained if verbs probe for agreement, and probabilistically sample highly active plural features. The increased RTs in [2]'s grammatical cases might then result from reduced local coherence. This explanation requires specifying the factors that modulate strength of retrieved features. Ongoing studies are testing the link between retrieved feature strength and several unique aspects of our materials, such as filler-gap processing, thematic prediction, and grammatical function overlap.

REFS.

