Syntactically unintegrated parentheticals: Evidence from agreement attraction
Andrew McInnerney & Emily Atkinson (University of Michigan)
amcin@umich.edu

Background(syntax): Parenthetical expressions are typically prosodically autonomous [1], semantically not-at-issue [2], and syntactically invisible [3]. This unique constellation of linguistic properties has given rise to two types of theories for the syntax of parentheticals, (i) integrated approaches [3-6], which take parentheticals to be related to their hosts via special, parenthetical-specific operations (i.e. [5]'s Par-Merge operation), and (ii) unintegrated approaches [7-9], which take parentheticals to be entirely separate from their hosts in the grammar, being integrated with them only at interfaces. Background(processing): The length of a relative clause adjunct (RC) (e.g. the butcher who lives there was...) inversely correlates with sentence acceptability, but the same is not true of the length of nominal appositives (NAPs, e.g. the butcher, the one who lives there, was...) [10], which have been argued to be parentheticals [8;12]. This difference is attributed to memory; while RCs reduce acceptability because they introduce material to memory that competes with material from the host, [10] suggests that parentheticals are built in a functionally distinct memory ‘workspace’ that alleviates some of the difficulty. This idea accords with unintegrated approaches [8;12]. 2 experiments test this hypothesis by comparing the effects of agreement attraction induced by interfering NPs contained within RCs vs. NAPs. Interfering NPs are known to facilitate processing in ungrammatical sentences in both reading-time and acceptability measures (The key to the cabinets are on the table) [13]. Crucially, this effect depends on the subject NP and the interfering NP occupying the same memory ‘workspace.’ If parentheticals are built in a separate workspace, we should find agreement attraction effects only for interfering NPs contained within RCs.

Exp1 (N=48) was a self-paced reading task with 32 items of 8 conditions in a 2 (grammaticality) x 2 (interference) x 2 (RC/NAP) design, see (1). Facilitation in reading times on an agreeing verb in ungrammatical sentences with an RC containing an interfering NP (1a) was expected, but not when the interfering NP is in an NAP (1b). The spillover region (Fig1) was read significantly more slowly in ungrammatical sentences (β=-22.4ms, p<0.01), and when the sentence contained an RC (β=-34.3ms, p<0.001; cf. [10]). Crucially, there was also a 3-way interaction (β=-62.9ms, p<0.05). Pairwise comparisons revealed this interaction was driven by significant effects of grammaticality in sentences without interference in both structures (NAPs: β=-51.35, p<0.001; RCs: β=-51.98, p<0.001) and sentences with interference in NAPs (β=-49.38, p<0.001), but the absence of this effect with interference in RCs (β=-2.75, p=0.84). That is, though ungrammatical sentences were read more slowly overall, this was not true of sentences with interference in an RC. Though RCs were subject to agreement attraction effects, NAPs were not.

Exp2 (N=48) was a speeded acceptability judgment task using a 7-point Likert scale with the same stimuli as Exp1. Grammatical sentences were rated higher than ungrammatical ones (5.23 vs. 4.06, p<0.001), and there was a significant interaction of grammaticality with intrusion (β=-0.17, p<0.05). Pairwise comparisons revealed that there was significant facilitation in ungrammatical sentences with interference (4.16 vs. 3.96, p<0.05), but not in grammatical sentences (5.18 vs. 5.29, p=0.1). There was no difference between RCs and NAPs in this task.

These results suggest that parentheticals may operate in a separate memory workspace (see [10]). Exp1 did reveal significant differences in shared-memory-based interference effects between parenthetical and non-parenthetical adjuncts. Further, this difference is in just the direction predicted by this hypothesis; material contained within parentheticals appears to be less potent in licensing interference effects. The results of Exp2 seem to conflict with this idea, but we speculate that this reflects the difference in task, which we will discuss in more detail.

(1) a. RC: The project manager who hired the independent contractor(s) |Adv, certainly |Critical was/were |Spillover upset | by the new acquisition.

b. NAP: The project manager, the one who hired the independent contractor(s), |Adv, certainly |Critical was/were |Spillover upset | by the new acquisition.
Figure 1: a 3-way interaction was driven by presence of an effect of grammaticality in all conditions except with Relative Clauses containing an interfering NP