

Aspectual Coercion: A New Method to Probe Aspectual Commitments

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Introduction: Aspectual theories in semantics distinguish between telic verb phrases, denoting bounded events with inherent endpoints (e.g., ‘draw a balloon’), and atelic phrases, denoting unbounded events lacking such endpoints (e.g., ‘do some drawing’; Krifka 1998; van Hout 2016). Aspectual coercion, the combination of mismatched aspectual elements in a sentence (e.g., ‘Ebony did some drawing in 10 seconds’), necessitates a realignment of temporal expectations (Jackendoff 1991; Moens & Steedman 1988). Past research on aspectual coercion’s processing costs offers mixed results (Bott 2010; Dölling 2014; Pickering et al. 2006; Piñango et al. 1999). These studies, focusing on reaction times during reading or lexical decision tasks, do not fully elucidate how coercion affects cognitive event understanding. Using a new interruption detection paradigm, our study measures how coerced and non-coerced sentences act as a zoom lens for perceiving the very same visual event (and hence a novel index of aspectual sentence interpretation).

Experiment 1: In 21 videos, a woman performed various actions (e.g., draw a balloon). In a norming study, these videos were judged to have a clear beginning, middle, and end (i.e., show bounded events). Each video was edited to include a 30 ms visual interruption (i.e. a *glitch*) either at the midpoint or near the end. This placement of interruptions was crucial, as previous research has shown that for events perceived as bounded, interruptions at late points are more likely to be missed by viewers compared to midpoints (because event endpoints are important and hence attract attention away from irrelevant distractors; Shipley & Zacks 2008), while for unbounded events, interruption detection remains consistent across the timeline (since there are no true ‘endpoints’; Ji & Papafragou 2022). Participants ($n = 192$) were told that the woman was given exercises by her physical therapist and read one of three types of sentence describing the exercises (between-subjects): ‘Telic’ (e.g., ‘She should draw a balloon’), ‘Telic+IN’ (‘She should draw a balloon in 10 seconds’), and ‘Telic+FOR’ (‘She should draw a balloon for 10 seconds’). The sentence was followed by a video after which participants indicated whether the woman did the exercise and whether there was a glitch in the video. We predicted that participants in the ‘Telic’ and ‘Telic+IN’ conditions would perceive events as bounded but those in the coercive ‘Telic+FOR’ condition would treat events as unbounded. Participants judged that the woman always did the exercise (i.e., sentences always matched the event; Telic: 98.6%, Telic+IN: 97.8%, Telic+FOR: 94.9%). Crucially, a significant interaction in break detection accuracy ($\chi^2 = 8.39$, $p = 0.0151$) confirmed that aspectual sentences, including coerced ones, affected mid- vs. late-break detection differently (Fig. 1). Telic and Telic+IN conditions showed mid- vs. late differences in interruption detection, indicative of a bounded event construal. However, the pattern switched in coercive Telic+FOR: mid- and late-point interruptions were detected similarly, suggesting an unbounded event construal.

Experiment 2: In the same design, new ($n=192$) participants were assigned to one of three conditions: ‘Atelic’ (e.g., ‘She should do some drawing’), ‘Atelic+FOR’ (‘...do some drawing for 10 seconds’), and coercion-inducing ‘Atelic+IN’ (‘...do some drawing in 10 seconds’). We expected that the ‘Atelic’ and ‘Atelic+FOR’ conditions would lead to an unbounded event interpretation but the coercive ‘Atelic+IN’ would result in participants perceiving events as bounded. Participants treated events as compatible with all sentences (Atelic: 98.2%, Atelic+FOR: 94.1%, Atelic+IN: 97.1%). As before, a significant interaction in break detection ($\chi^2 = 11.55$, $p = 0.003$) was observed (Fig. 2): in the Atelic and Atelic+FOR conditions there were similar detection rates for the time points, consistent with unbounded event perception, while the coercive Atelic+IN condition led to a difference in detecting midpoint and late point interruptions, pointing to a bounded event construal.

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Conclusion. We find that, for both Telic to Atelic (Exp.1) and Atelic to Telic (Exp.2) aspectual coercion, people's event construals align with coerced sentence readings. Our study demonstrates participants' commitments to aspectual (including coerced) structures. By linking aspectual coercion in language to distinct patterns in visual event perception, we offer a more direct approach to understanding aspectual commitments in semantics.

Figure 1: Proportion of correct break detection responses in critical trials of Experiment 1. Error bars represent \pm SEM. The coercion condition is Telic+FOR.

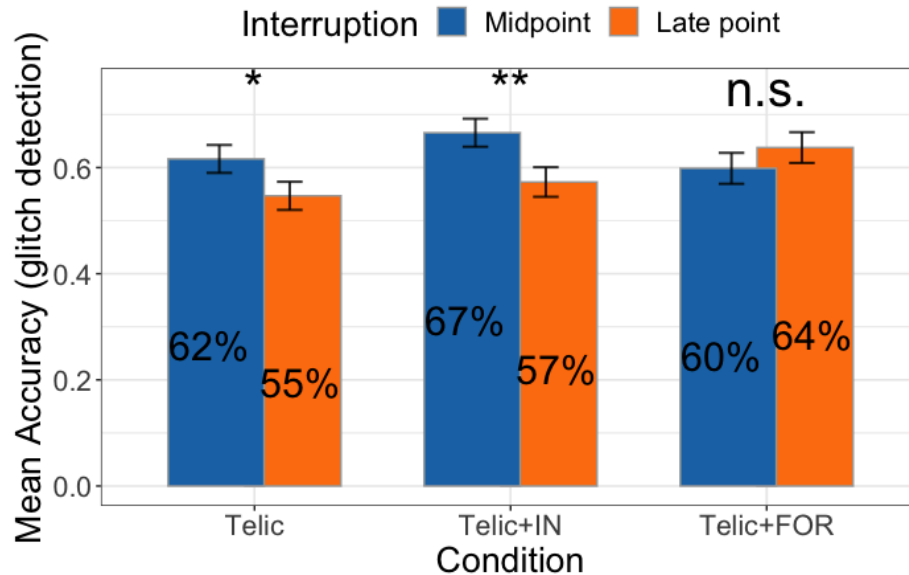
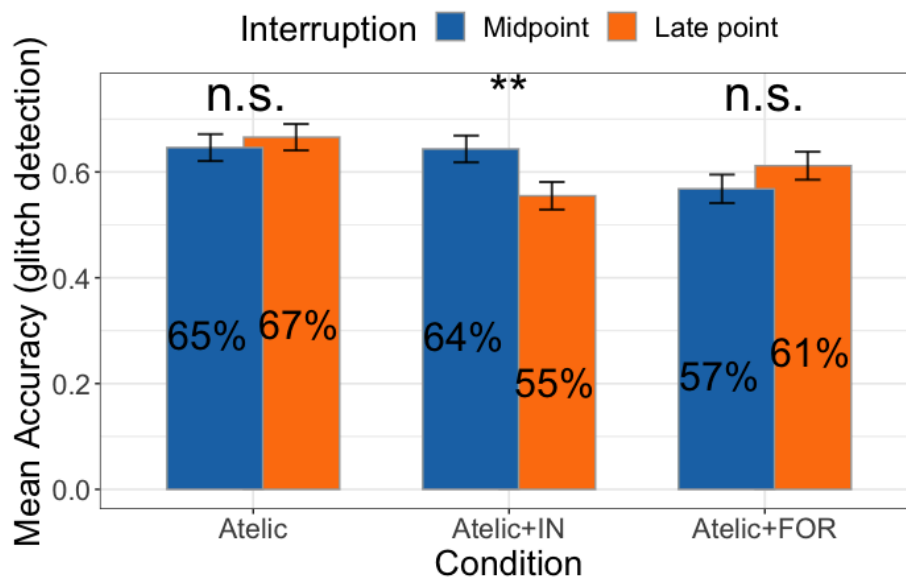


Figure 2: Proportion of correct break detection responses in critical trials of Experiment 2. Error bars represent \pm SEM. The coercion condition is Atelic+IN.



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