Lexical Aspect Maps Onto Event Apprehension

1. Introduction. Aspectual theories in semantics draw a distinction between telic verb phrases denoting events with an inherent endpoint (e.g., *peel a banana*) and atelic verb phrases denoting events that lack an inherent endpoint (e.g., *peel*; Krifka, 1998; van Hout, 2016). Telicity is assumed to correspond to alternative perspectives on what could be the same underlying eventuality; furthermore, telicity is frequently taken to map onto nonlinguistic event structure – specifically, whether an event is taken to be bounded or not (Filip, 1993; Ji & Papafragou, 2020a, b). Here we present one of the first direct tests of these assumptions. We ask whether prior exposure to telic vs. atelic descriptions of an event influences how the event is mentally processed (i.e., whether it is construed as bounded vs. unbounded).

2. Stimuli. We created 15 videos in which the same woman performed an action on an object (drew a picture, peeled a banana, blew a balloon, etc.). Each lasted 10.6 sec on average (range: 7.31-14.81). In a norming study, these videos were overwhelmingly judged as depicting "something with a beginning, midpoint and specific endpoint" (i.e., had bounded construals). Nine of these videos (test items) were then edited to place a visual interruption of .13s at the temporal point corresponding to either 50% of the video (mid-interruption) or 80% of the video (late-interruption). Filler items were left intact. We then rotated mid- and late interruptions across lists of test videos such that each participant only saw one type of interruption per test video.

3. Procedure. Ninety monolingual English speakers were presented with a scenario in which a woman was recovering from surgery and had to perform a range of exercises to regain her fine motor skills. Participants were randomly assigned to one of three (between-subject) Context conditions: Telic, Atelic, and No Context. In the Telic and Atelic conditions, prior to each trial, viewers were presented with a sentence describing the exercise that the woman had to do in either telic ('Draw a picture') or atelic ('Do some drawing') framing. The sentence was displayed for 6.5s, then the video clip started. After watching the video, participants were reminded of the exercise and had to indicate via a key press whether the woman had done the exercise or not. As a secondary task, they then had to identify whether there was a glitch in the video by pressing a key. In the No Context condition, participants were given the same cover story but without descriptions, and only had to determine whether there was a glitch in the video or not.

4. Hypotheses. We predicted that atelic descriptions would lead viewers to construe the event as unbounded (i.e., homogeneous and lacking a boundary at the end), and telic descriptions would encourage a bounded event construal (consisting of discrete steps culminating in a specific endpoint; Ji & Papafragou, 2020a). If so, these construals should have distinct signatures on the mental processing of interruptions during event apprehension. Because what happens at event endpoints is critical for cognitive processing (e.g., Shipley & Zacks, 2008), we expect that viewers should attend more to the content of the videos at endpoints compared to midpoints in the Telic condition, and therefore *miss* irrelevant, content-external Late compared to Mid- interruptions (see Shipley & Zacks, 2008 for evidence that attention leads to ignoring external distractors at event endpoints). However, since unbounded events do not have canonical endpoints - they stop, but do not culminate, endpoints should be treated largely similarly to other time points; hence in the Atelic condition the placement of the interruption should not make a difference. The No Context condition served as a control. Because there was

only a single task here, it was possible that both Mid and Late interruptions would be equally easy to detect.

5. Results. We found a significant interaction between Context and Interruption type (p<0.001). A mixed-effects model with interruption type as a fixed effect with random intercepts for participants and items showed that interruptions had a significant effect on accuracy ($\chi_2(2)$: 12.976, p < 0.01) in the Telic condition only. Post-hoc testing on midpoint and late point accuracy differences showed that they were only significant in the Telic condition (z: -2.736, Tukey adjusted p = 0.01). As expected, participants in the Telic condition had lower accuracy rates for late point interruptions compared to midpoint interruptions (Mid: 81% vs. Late: 63%) but this difference disappeared in the other conditions (Atelic: Mid: 66%, Late: 79%; NoContext: Mid: 92% Late: 78%).

Midpoint vs. late break detection across conditions
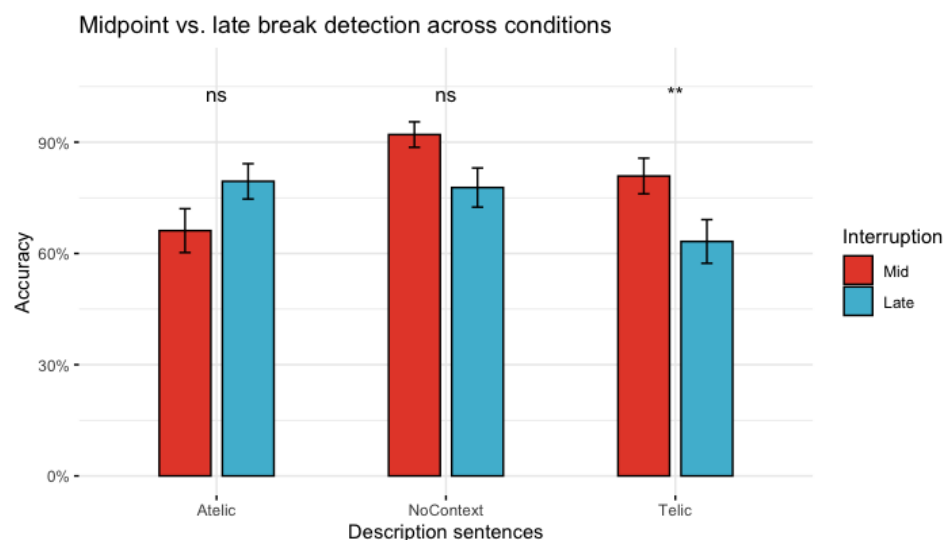
6. Discussion and Conclusion. Our results show that identical events presented with telic compared to atelic descriptions were more likely to be processed as bounded events (as evidenced by how viewers processed temporal points within each event). These data confirm that telicity is a perspective on the temporal profile of otherwise multiply interpretable streams of experience. Our data further support a mapping between linguistic telicity and boundedness in non-linguistic cognition, and a broader alignment between linguistic and cognitive representations (Pinker, 1989).

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