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The Role of Telicity in Sentence Comprehension

Event structure refers to the inherent temporal properties of events: telic events like halting, tripping, and landing have an inherent endpoint whereas atelic events like marching, resting, and floating do not. Telic verbs require a theme that undergoes a change in state or some other device to mark the end of the event, or "delimit" it. Accordingly, comprehenders may use event structure to assign a theme more quickly for telic verbs than for atelic verbs. If comprehenders immediately use the theme-requiring property of verbs to assign theme, they should be less susceptible to a garden path in certain reduced relative clauses (Townsend & Bever, 2001). For example, in *The prisoner marched by the agent escaped* it is correct to assign *prisoner* the role of theme of *marched.* But this assignment may be easier when the initial verb is telic, as in *The prisoner halted by the agent escaped* (O'Bryan et al., 2002). Thus, the event structure of a verb along with preferences to use a verb in transitive vs. intransitive sentence frames and post-verbal cues may combine to influence the strength of the garden path (MacDonald, 1994).

To test this hypothesis, we selected 16 sets of verbs with one verb in each combination of telic vs. atelic and preferred–transitive vs. preferred-intransitive. One set appears below:

	Telic	Atelic
Preferred-transitive	captured	admired
Preferred-intransitive	tripped	rested

An acceptability test showed that college students (N=32) prefer to use temporal phrases like *in an hour* rather than *for an hour* with our telic verbs, but that the reverse is true with our atelic verbs ($p < .01$). They prefer an intransitive sentence frame when the verb is preferred-intransitive and a transitive sentence frame when the verb is preferred-transitive ($p < .001$). In addition, our preferred-intransitive verbs occur more often in intransitive sentences and our preferred-transitive verbs occur more often in transitive sentences ($p < .05$ in the HarperCollins corpus).

We measured single word self-paced reading times in reduced relative clauses in two experiments. Experiment 1 (N = 64) used 16 sets of 4 verbs in sentences like

Reduced Relative: *The actor tripped on the stage broke the mood of the audience.*

Unreduced Relative:*The actor that was tripped on the stage broke the mood of the audience.*

The initial verbs were telic or atelic, and preferred-transitive or preferred-intransitive. To measure the strength of the garden path, we calculated the difference in word reading time for reduced vs. unreduced clauses.

Experiment 2 (N = 30) used 18 sets of 2 verbs in sentences like

Reduced Relative: *The boat floated down the river sank.*

Coordinate: *The boat floated down the river and sank.*

The initial verbs were all preferred-intransitive, and either telic or atelic. Our measure of the strength of the garden path was the difference in word reading time for reduced vs. coordinate clauses.

- Both experiments showed an overall garden path effect on the main verb *(*both *p*s < .05).
- In Experiment 1 garden path effects were larger for preferred-transitive verbs than for preferred-intransitive verbs on the preposition (*on*) within the relative clause ($p < .01$).
- Neither experiment showed differences in garden path effects for telic vs. atelic verbs within the relative clause or on the main verb (all *p*s > .05).

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- Both experiments showed that telic verbs overall produced faster reading times on the main verb (both *p*s < .05). Experiment 2 showed an overall advantage in reading times for telic verbs on each word within the embedded prepositional phrase (all *p*s < .05).

These results show that comprehenders use sub-categorization preferences to anticipate a post-verbal object. When the word following an unmarked preferred-transitive verb is not consistent with a direct object, as in *The actor tripped on…,* reading times increase compared to sentences in which the verb is marked as subordinate, as in *The actor that was tripped on….*

In contrast, the present results provide no evidence for the immediate use of the theme-requiring properties of telic verbs. This result is consistent with other research that suggests that the progressive vs. past tense of verbs does not influence susceptibility to DO/S ambiguities (Schmitt et al., 2003). Nevertheless, it remains possible that event structure interacts with post-verbal cues in the initial assignment of thematic roles. For example, an initial telic verb plus *by,* which is a strong cue that the initial noun is theme of the verb (Clarke et al., 2000), could reduce the garden path more than does an initial atelic verb. In addition, presenting words one at a time conceivably may have masked a true effect of telicity on the garden path.

The overall faster reading times for telic verbs around the clause boundary may occur because these verbs provide a temporal anchor in discourse (Dowty, 1986). For example, we often interpret a telic event as occurring later than the event described in the preceding sentence, as in *The audience entered the theater. The actor tripped on the stage.* Because tripping is an event with an inherent end, the second sentence marks a new point of temporal reference. But an atelic event overlaps the event described in the first sentence in *The audience entered the theater. The actor rested on the stage.* The second sentence here describes a situation that exists prior to and after the event in the first sentence. Our data are consistent with the view that sentences that establish a definite temporal boundary are easier to integrate into a representation of discourse (Townsend, 1983).

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