

Event Structure and Event Duration in Language Comprehension

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This talk will discuss the role of event structure and event duration in language comprehension. Several studies are reported, which investigate the contrast between state and event descriptions in sentences and short narratives. When compared to state descriptions, event sentences appear to take longer to process, consistent with the fact that events have internal causal structure and are thus expected to require more time to understand (Gennari, S. and Poeppel, 2003).

However, both states and events are also modulated by the duration of the referred eventuality and the different kinds of temporal relations that they can establish with other events in the context. For example, when events are punctual or verbs are marked with perfective past tense, they require less time to process compared to long states or verbs marked with imperfective past (Coll-Florit and Gennari, 2011).

To investigate whether event structure and event duration are orthogonal to each other, we conducted several experiments contrasting different length of the same event (long vs. short). To this end, we constructed materials like (1) in which the discourse relations and the event referred stay the same and only the event duration interpretation varies due to minimal changes in the preceding context (plausibility didn't differ across conditions).

- (1) *Lisa was moving to a new flat near the university.*
Long condition: *John spent his morning there*
Short condition: *John spent an hour there*
He spent all that time assembling her bed.



We tracked participants' eye-movements while looking at objects on the screen containing only one object related to the story being heard (e.g. bed, for example (1)). Participants only heard one condition for each item (long or short). Results indicated that first fixation durations on the relevant object (bed) were longer for the long condition while hearing *her bed* ($p < .05$). These results were replicated in another study using a different set of materials in which the scale of the events' duration was longer (e.g., building a house in two weeks vs. a month).

In another study, we investigated events and states of different duration by comparing long vs. short events together with long vs. short states, as in (2). The experiment was conducted in Spanish and took advantage of the contrast between different auxiliary *be*-verbs (*ser/estar*) indicating temporary and persistent states.

- (2) States: *My son is (currently) very pale* (my hijo *está* muy pálido). (short state)
My son is (always) very pale (my hijo *es* muy pálido) (long state)
Events: *John wrote a note on his notebook* (short)
John wrote a thesis on psychology (long)

These sentences were followed by a pronoun such as *this*, referring to the preceding sentences (e.g., *This worries me*). The reading times of the pronoun (referring back to the

preceding state or event) indicated an effect of duration for both states and events and an interaction between duration and event type.

Taken together, these results suggest that effects of event structure and duration modulate the processing cost of both events and states, but also may interact with each other. We will discuss possible conceptual representations that may give rise to these effects, such as semantic complexity and indeterminacy.

References

Coll-Florit M, and Gennari SP. (2011). Time in language: Event duration in language comprehension. *Cognitive psychology*, 62, 41–79.

Gennari S, and Poeppel D. (2003). Processing correlates of lexical semantic complexity. *Cognition*, 89, B27–B41.