APPRAOCH

How does event structure link to cognition?


>>Event variables range over event representations

We seek parallels between the semantics of simple clauses and the structure of extralinguistic representations. Test case: CAUSE relating simple events.

EVENT PSYCHOLOGY

This type of investigation is necessary, anyway. (metaphysical) reality has to be known via our conceptualization of it; and (deep) conceptualization isn’t open to introspection [2].

An emerging view:

There are event percepts that exist independently of how we think about “things that happen”.

These function as a means of discretizing the continuous flow of experience into useful units that feed other processes [4].

Perception of causality is fast, automatic, irresistible, stimulus-driven, and independent of animacy [9].

Hierarchical structure

At least for higher-order events like “doing dishes”; participants segment the scene into hierarchically nested slices [10].

“Coarse grain” segmentations track relations like cause & effect, “fine grain” track simple movements in the scene.

Complex event representations are structured out of simpler ones, and vision can represent CAUSE.

REFERENCES


EVENT SEMANTICS

“The usefulness of a representation depends upon how well suited it is to the purpose for which it is used” [8].

The history of “A Verbed B” has gone from inclusion of zero to (at least) two event variables:

The traditional view: Verbed(A,B)

Davidsonian view: Verbing(e,A,B)

Neodavidsonian view: Ag(e,A) & Verbing(e) & Pat(e,B)

Gains: adverbial modification, event anaphora, perception reports, causative/inchoative alternations

Some considerations might lead a neodavidsonian to:

Ag(e,A) & Verbing(e') & Pat(e',B) & R(e,e')

Parsons: R = CAUSE    Pietroski: R = TERMINATES

Reasons to maybe separate out agent’s contribution:


Some small linguistic structures might call for multiple events and relations between them. Can we find evidence for this at the interface?

EXPERIMENT I

Transitive clauses may be interpreted with multiple events, linked by some R (sometimes interpreted as CAUSE). Will this track CAUSE percept?

A. Replicate/extend [7]’s perception of causality

B. Stimuli support both LAUNCH and TOUCH interpretations for a novel verb. Test frequency of LAUNCH in Transitive v. Intransitive frame:

Trans: A blicked B       Intrans: A & B blicked

Predictions

> More LAUNCH-type responses in Trans

> LAUNCH-type responses track CAUSE percept

EXPERIMENT II

LAUNCH-type events may show nested hierarchical structure. Does this imply multiple events per clause in the logical form of (some) Trans clauses?

A. Extend event segmentation paradigm to simple events, only some supporting CAUSE.

B. Stimuli support both LAUNCH and TOUCH interpretations for a novel verb. Test frequency of LAUNCH in Transitive v. Intransitive frame:

Trans: One blicks another       Intrans: Two blick

C. Given chains of events that support various instances of LAUNCH and TOUCH. Press F when:

Trans: A clicked B       Intrans: A & B clicked

Predictions/speculations:

> #coarse grain (tracking CAUSE) > #fine grain (tracking simple movements)

> LAUNCH events show nested structure

> Trans frame cues search for complex events