Can we fight with trees?
Exploring the territory of reciprocal verbs

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Theory

1. *Yasmin and Lisa are hugging*

Dominant assumption in the literature:
Sentence 1 is TRUE if Yasmin and Lisa both participate in the act of hugging, like in this picture:
This leads to the Requirement of Symmetric Participation

More general: A and B unary entry reciprocalverb → A verb B and B verb A
In formula: $P(x, y) \rightarrow R(x, y) \wedge R(y, x)$

Research Question 1: can unary entry reciprocals occur without symmetric participation and if yes, under which circumstances?
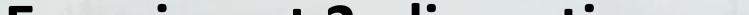
What about other reciprocal constructions? Reciprocal verb + with: discontinuous construction.

2. Damian fights with Quentin

Research Question 2: can discontinuous reciprocal constructions occur without symmetric participation and if yes, under which circumstances?

Hypothesis: (1) Symmetric participation is not a requirement for the acceptance of sentences with a unary or discontinuous entry. (2) Joint intentionality of the agents boosts acceptance of reciprocal sentences in events without symmetric participation

Experiment 1: unary entry reciprocals

Verbs tested: *hug, fight, whisper and collide*
Truth value judgement task with videos
Two types of videos, both featuring asymmetric events

Still from video **with** joint intentionality   still from video **without** ji

Test sentences:
1. Shirley en Damian hebben geknuffeld/gevochten/gefluisterd/gebotst
"Shirley and Damian hugged/fought/whispered/collided"
2. Damian heeft (tegen) Shirley geknuffeld/gevochten/gefluisterd/gebotst
"Damian hugged/fought/whispered/collided against/to Shirley"

Results Experiment 1 and Experiment 2

Significant difference between acceptance rates of
- The unary and the binary entry combined with the joint intentionality video for all verbs except *fight* (hug 84% vs 41%, collide 69% vs 4%, whisper 91% vs 10%, fight 40% vs 32%)
- Unary entry combined with the joint intentionality video and unary entry combined with the no joint intentionality video for all verbs except *collide* (hug 84% vs 51%, collide 69% vs 70%, whisper 91% vs 40%, fight 40% vs 19%)
- Shirley fights with Damian and Damian fights with Shirley (75% vs 18%)
- Shirley fights/gossips with Damian combined with the joint intentionality video and Shirley fights/gossips with Damian combined with the no joint intentionality video (fight: 75% vs 37%, gossip 89% vs 54%).

Experiment 2: discontinuous reciprocals

Verbs tested: *hug, fight, talk, gossip*
Truth value judgement task with videos

Two types of videos: similar to Experiment 1

Test sentences:
1. Shirley heeft met Damien geknuffeld/gevochten/gepraat/geroddeld
"Shirley hugged/fought/talked/gossiped with Damian"
2. Damian heeft met Shirley geknuffeld/ /gevochten/gepraat/geroddeld
"Damian hugged/fought/talked/gossiped with Shirley"

Conclusions

1. Symmetric participation is not required but preferential for the acceptance of the unary entry reciprocal ("Shirley and Damian are fighting")

2. Joint intentionality boosts the acceptance of unary entry reciprocal in an event without symmetric participation, except for *collide*
   - Joint intentionality not part of the concept *collide*

3. For the discontinuous construction ("Shirley fights with Damian") more research is required