Reciprocal predicates: a prototype model

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Reciprocal verbs

“Tom and Peter fight”
Reciprocal verbs

Hug "Violet and Mark hug"
Collide "The truck and the car collide"
Date "They have been dating for five years"

Reciprocals verbs alternate:

Violet and Mark hug - unary entry
Mark hugs Violet - binary entry

What is the semantic relation between the unary and the binary entry of reciprocal verbs?
Option 1: entailment between unary and binary entry (i)

Violet and Mark hug - unary entry
Mark hugs Violet - binary entry

Violet and Mark hug → Violet hugs Mark and Mark hugs Violet
P (x + y): R (x, y) & R (y, x)

Option 1: entailment between unary and binary entry (ii)

Violet and Mark recipverb → Violet recipverb Mark and Mark recipverb Violet

Symmetrical participation!
Option 2: conceptual prototypes (i)

Relation between entries is conceptual: no logical rule

Two conceptual ingredients:
- Symmetric participation
- Collective Intentionality

Compare
- Mary kisses John
- Mary and John kiss
Option 2: conceptual prototypes (ii)

Prototype theory (Hampton 2007)

There is a “prototypical reciprocal event” with symmetric participation & joint intentionality

prototypical hug  non prototypical hug  marginal hug  no hug
Empirical predictions (i)

The girl and the mother hugged.

**entailment theory:**

The girl and the mother hugged → the girl hugged the mother and the mother hugged the girl.

False!

**conceptual prototype theory:**

Non prototypical but not marginal, no symmetric participation but there is joint intentionality, so acceptance above chance level.
Empirical predictions (ii)

The girl and the mother hugged.

**entailment theory:**
The girl and the mother hugged → the girl hugged the mother and the mother hugged the girl.
False!

**conceptual prototype theory:**
Marginal, no symmetric participation and no joint intentionality, acceptance low.
Experiment

4 Dutch reciprocal verbs:

- botsen (collide)
- knuffelen (hug)
- fluisteren (whisper)
- vechten (fight)
Trial

1. Video: always without symmetric participation
   With collective intentionality or without collective intentionality

2. Sentence
   unary (Violet and Mark fought) or binary (Mark fought against Violet)

3. Truth value judgement: true or false?
Violet en Mark hebben gevochten ("Violet and Mark fought")

Mark heeft tegen Violet gevochten ("Mark fought against Violet")

true or false

Violet en Mark hebben gevochten ("Violet and Mark fought")

Mark heeft tegen Violet gevochten ("Mark fought against Violet")
Substantial acceptance of unary entry (Violet and Mark hugged) in the CI video;

For all verbs except *fight* the unary entry was accepted significantly more than the binary entry;

For all verbs except *collide* CI had a significant effect on the acceptance of the unary entry, for *hug* and *fight* CI also had an effect on the acceptance of the binary entry
Differences between verbs:
- no effect CI for *collide*;
- CI surprisingly also has an effect on the binary sentences for *hug* and *fight*. 
Conclusion (i)

What is the semantic relation between the unary and binary entry of reciprocal verbs?

Violet and Mark hugged – Mark hugged Violet.

Entailment versus conceptual prototype theory.

Experimental results support conceptual prototype theory:

- **Symmetric participation** and **joint intentionality** are preferred, but not necessary.
Conclusion (ii)

Goal: gain a better understanding of lexical alternations.

Take into account the lexical concepts and their influence on the alternations.
Thank you!