# Lexical Reciprocity

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Morpho-semantic relation between:

- **binary** predicate

    Sue *dated* Dan

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- **collective-unary** predicate

  Sue and Dan *dated*

## Types of predicates

| | |
|---|---|
| **Eventive verbs** | *marry*, *meet*, *hug*, *kiss*, *argue* |
| **Stative verbs** | *match*, *rhyme*, *be in love*, *intersect* |
| **Nouns** | *partner*, *cousin*, *friend*, *enemy* |
| **Adjectives** | *similar*, *adjacent*, *equal*, *parallel* |

## Notes on symmetry

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A binary predicate $R$ is **symmetric** if for all $x, y$:
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- property of binary predicates

- formally unrelated to reciprocity

- **non**-symmetry $\neq$ **a**symmetry

# Familiar facts about lexical reciprocity

- **Symmetry and non-symmetry**:

  *Sue is Dan's cousin = Dan is Sue's cousin*
  *Sue is dating Dan = Dan is dating Sue*

  *Sue is hugging Dan ≠ Dan is hugging Sue*
  *your car collided with mine ≠ my car collided with yours*

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- **Symmetry predicts reciprocity**: the vast majority of the
  symmetric binary predicates in English have a reciprocal parallel.
  notable exceptions: *far, near, resemble*

## Plot

**Reciprocity-Symmetry Generalization** (RSG):
Symmetry (*date*) correlates with a different type of reciprocity than
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**Proposal**:

1. Symmetry is **systematically derived** from lexical collectivity (Lakoff
   & Peters 1969)
   no meanings postulates here, pace Partee (Monday)

2. Non-symmetry (*hug*) reflects **typical polysemy** of the in/transitive
   forms, not logic
   pace virtually all previous works

3. Dowty's **protoroles** inspire a formal account of RSG: between
   concepts and lexicon

# Broader perspectives

1. On the nature of "resemble" et al. – RSG as a language universal

2. On the nature of "hug" et al. – pseudo-reciprocity as a typicality phenomenon: experimental work with Imke Kruitwagen and Eva Poortman

# General properties of lexical reciprocals

- Non-productive

  #*Sue and Dan praised*

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- No obvious relation to reciprocal quantifiers

  *Sue and Dan praised each other*

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- Productive morpho-syntax, notably Romance clitics – set aside

## Plan

- Reciprocity-symmetry generalization

- Protopredicates and the RSG

- On pseudo-reciprocity (Kruitwagen et al.)

# Reciprocity and symmetry

- Two kinds of lexical reciprocity

- Correlate with (non) symmetry

# Symmetric and non-symmetric predicates

**Symmetric:**

(1) Sue dated Dan
$\Leftrightarrow$ Dan dated Sue

**Non-symmetric:**

(2) Sue hugged Dan
$\nLeftrightarrow$ Dan hugged Sue

# Two kinds of lexical reciprocity

**Plain reciprocity** (**plainR**):

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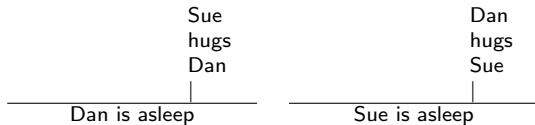(2) Sue and Dan hugged
  ⇏ Sue hugged Dan and Dan hugged Sue

# Short history

**1960s**: symmetry assumed for lexical reciprocals

**Dong (1971)**: pseudo-reciprocity and non-symmetry

**1970s-now**: missing formal semantic generalizations

# Reciprocity-Symmetry Generalization

|        | reciprocity | symmetry |
|--------|:-----------:|:--------:|
| DATE   | $\Leftrightarrow$ | $+$ |
| HUG    | $\not\Leftrightarrow$ | $-$ |
| PRAISE | X | $-$ |

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**Generalization**:

    **Plain** reciprocity ($\Leftrightarrow$) correlates with **symmetry**.

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**Generalization**:

    **Plain** reciprocity ($\Leftrightarrow$) correlates with **symmetry**.

    **Pseudo**-reciprocity ($\nLeftrightarrow$) correlates with **non**-symmetry.

1. Apparently new, but hinted at in Gleitman et al. (1996)
2. Does not follow from definitions of symmetry and plain (pseudo) reciprocity
3. Stronger version: symmetry only appears due to plain reciprocity (*praise*)

## Examples

**Plain reciprocity & Symmetry**:

| | | |
|---|---|---|
| *talk* (*with*) | *marry* (ACC) | *neighbor* (*of*) |
| *meet* (*with*) | *match* (ACC) | *partner* (*of*) |
| *share* NP (*with*) | *similar* (*to*) | *sibling* (*of*) |
| *rhyme* (*with*) | *identical* (*to*) | *cousin* (*of*) |
| *collaborate* (*with*) | *parallel* (*to*) | *twin* (*of*) |

**Pseudo-reciprocity & Non-symmetry**:

| | | |
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| *talk* (*to*) | *collide* (*with*) | *embrace* (ACC) |
| *meet* (ACC) | *hug* (ACC) | *pet* (ACC) |
| *fall in love* (*with*) | *kiss* (ACC) | *cuddle* (ACC) |
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**kiss with, hug with... (Hebrew, Greek...)**

# An apparent counter-example

(1) Sue and Kim are sisters
   ⇔ Sue is Kim's sister and Kim is Sue's sister

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- *x is sister of y* asserts that *x* and *y* are siblings, and only **presupposes** that *x* is female.

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(1) Sue and Kim are sisters
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Schwarz (2006), Partee (2008):

- *x is sister of y* asserts that $x$ and $y$ are siblings, and only **presupposes** that $x$ is female.

- Thus, *sister of* is "Strawson symmetric" – truth-conditionally identical to *sibling/brother of*

# Irreducibility of collective predication

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**lexically reciprocal predicates = one species of irreducible collectivity**

# Some plain reciprocals

| Collective | | Binary |
|---|---|---|
| collaborate | $\mapsto$ | collaborate with |
| talk | $\mapsto$ | talk with |
| meet | $\mapsto$ | meet with |
| similar | $\mapsto$ | similar to |
| parallel | $\mapsto$ | parallel to |
| identical | $\mapsto$ | identical to |
| neighbor | $\mapsto$ | neighbor of |
| partner | $\mapsto$ | partner of |
| sibling | $\mapsto$ | partner of |
| cousin | $\mapsto$ | cousin of |

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Non-standard treatment of symmetric kinship terms…

# The plainR Rule

$x$ *is cousin of* $y$ $\stackrel{def}{=}$ COUSIN($\{x, y\}$)

$\approx$ $x$ *and* $y$ *share grandparents*

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But how about **pseudo-reciprocals**?

# The puzzle of pseudo-reciprocals

(1) Sue & Dan hugged

(2) Sue hugged Dan and Dan hugged Sue

**(2) $\nRightarrow$ (1)**

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(1) Sue & Dan hugged

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**(2) $\nRightarrow$ (1)**

**What does (1) "really mean"?**

- Does (1) really entail (2), as previous works assume?
- Do we really want grammar to explain what collective hugs are?

# A and B are hugging



?the woman is hugging the man

# A and B are hugging?

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# Kruitwagen et al.

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Many participants answer "no" to 1, but "yes" to 2, depending on the reaction of B to the whole event.

**Conclusion**: Pseudo-reciprocity is a **preferential** strategy of a lexical concept, with no "logical" definition.

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- Sue and Dan's CI as demonstrated in $e$
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Collective HUG is a complex concept, but logically it simplex – not defined on the basis of meaning postulates using the "simpler" concept for binary *hug*.

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| thematic arguments | $\rightarrow$ | Davidsonian |

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**Protopredicates** = typed Davidsonian predicates without morpho-syntactic features
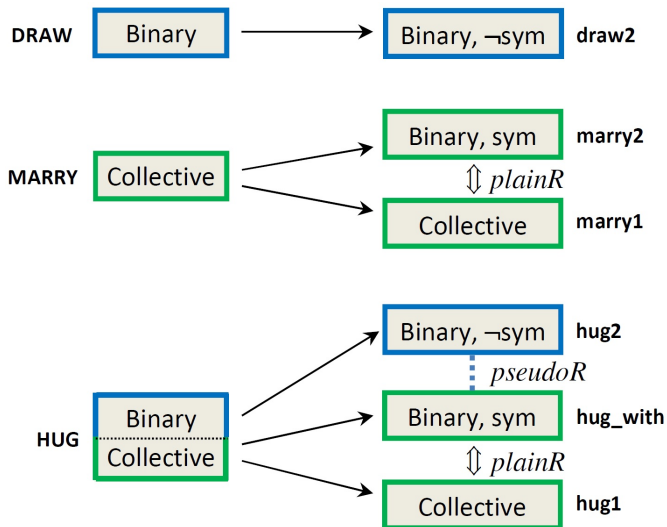
## Types of protopredicates

| | | | agent | patient | collective |
|---|---|---|---|---|---|
| **binary** | DRAW |  | A | B | – |
| **collective** | SHAKE-HANDS |  | – | – | A,B |
| **binary/ collective** | HUG |  | A | B | A,B |
| | |  | A,B | A,B | A,B |

# Implications for RSG

| Type p-predicate | Reciprocity | Symmetry? |
|---|---|---|
| **b** | X | − |
| **c** | plainR | + |
| **bc** | pseudoR | − |
|  | plainR | + |

# Summary: Protopredicates and the RSG

# Acknowledgements

Partee (2008)

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