ROCKY seminar: semantic debates

Distributivity and reciprocity

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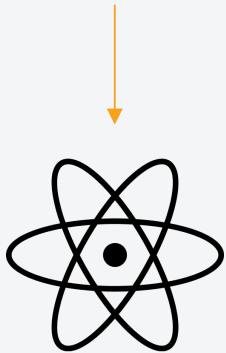
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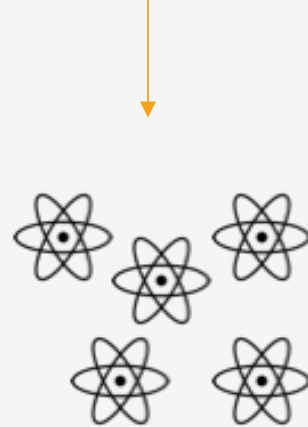
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SINGULAR AND PLURAL

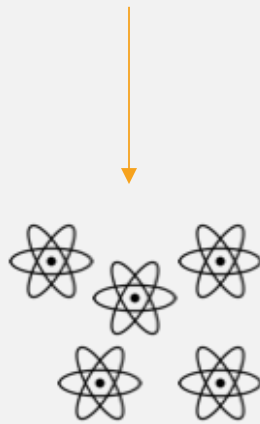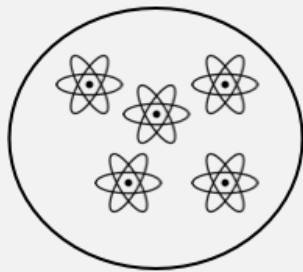1. the girl smile**s**

2. the girl**s** smile

DISTRIBUTIVITY

1. The girls smile

$\Leftrightarrow$ each of the girls smiles

CONTRAST TO COLLECTIVITY

3. The boys gathered

DISTRIBUTIVE OR COLLECTIVE?

Suppose we have a sentence S of the form *X Pred*, where *X* is a plural, conjunction or group NP, and *Pred* is a predicate.

An *interpretation* of S is *distributive* if we infer that *Pred* holds for every member *x* of *X* ; otherwise it is *collective* (de Vries, 2015)

BOTH READINGS

4. The men carried a box

collective

distributive

DISTRIBUTIVITY

- Two ways of explaining distributivity:
  - **Q**uantificational distributivity
  - **P**redicate distributivity

Q DISTRIBUTIVITY

- Distributivity ("D") operator in the logical representation (Link 1984)

5a. [[build a raft]] = { x | there is a raft that x built }

5b. [[D[build a raft]]] = { X | for all singular individuals y in X, there is a raft that y built }

A CASE FOR Q-DISTRIBUTIVITY

VP disjunction (de Vries, 2015)

6. The children are sleeping or drawing

    a. The children are sleeping or the children are drawing.

    b. For every child y, y is sleeping or y is drawing.
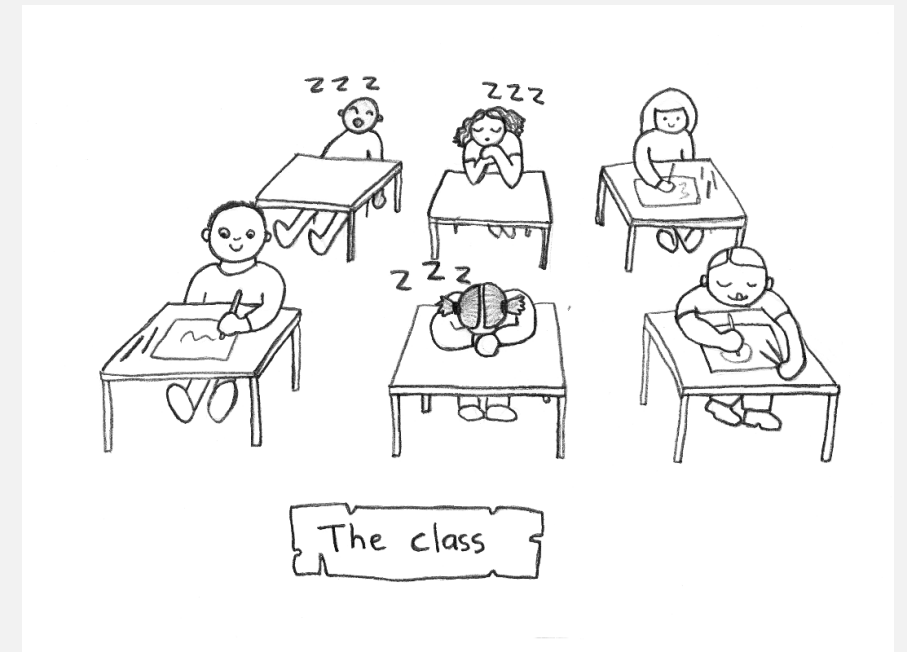
Interpretation for 6b (de Vries 2015)

P-DISTRIBUTIVITY

Scha (1981)

Concept/lexicon based.

An example:

7. The children laughed

8. The children gathered

CASE FOR P-DISTRIBUTIVITY

9. The committee laughs

$\Leftrightarrow$ each of the committee members laughed

Singular, so no Q-distributivity

CONCLUSION

We need both!

P-distributivity alone cannot account for all the data, and neither can Q-distributivity

COLLECTIVITY

Suppose we have a sentence S of the form *X Pred*, where *X* is a plural, conjunction or group NP, and *Pred* is a predicate.
An *interpretation* of S is *distributive* if we infer that *Pred* holds for every member *x* of *X* ; otherwise it is *collective* (de Vries, 2015)

→ An *interpretation* of S is *collective* if we infer that *Pred* holds for **X as a whole**, as opposed to applying to the individual members that form *X*

RECIPROCITY

10. The girls smiled

11. The men gathered

12. Mary and John hugged

"Mary and John" are in a certain relation to each other

RECIPROCITY Q-STYLE

13. The boys hugged

Plural, non-distributive predication over a set of entities

RECIPROCITY P-STYLE

14. The team hugged

Singular predication over an (impure) atom; we rely on the lexical meaning of *hug*. No inference on individual participation of group members!

AGAIN: Q-STYLE OR P-STYLE?

Predictions Q-style reciprocity:

- Quantificational, so every *x* of *X* is active →

15a. Mary and John hugged

15b. Mary hugged John

15c. John hugged Mary

Q-STYLE OR P-STYLE?

Predictions P-style reciprocity

- Reciprocity based on the lexical meaning of the verb

EMPIRICAL WORK

Truth value judgements on collective statements

"Violet and Mark hugged" describing a movie in which only Violet hugged Mark

Binary: **"Mark hugged Violet"**

Verbs: hug, fight, talk, collide, whisper, gossip

RESULTS

verb / item	collective	binary
hug	58%	41%
fight	50%	19%
talk	67%	6%
collide	88%	6%
whisper	61%	6%
gossip	88%	13%

CONCLUSION EMPIRICAL WORK

Violet and Mark hugged **does NOT entail** Violet hugged
Mark and Mark hugged Violet

HOWEVER

- Empirical work shows that entailments as predicted by Q do not always hold

But:

- John and Sue got married $\Leftrightarrow$ John married Sue and Sue married John

POSSIBLE SOLUTION

Quantificational reciprocity can account for verbs like to marry, to meet: **logical** relation between collective and binary statements

Predicate based reciprocity can account for verbs like to hug, talk, collide: **preferential** relation between collective and binary statements

Thank you for your attention!