

# Attention, exhaustivity and non-cooperativity

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turning distributed  
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## Part I

1. Diagnosis
2. Theory
3. Predictions
4. Discussion

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1.2. Towards a solution

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*Wrong, it does!*

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*maxim of Relation*

## 2. Theory

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2.2. Semantics

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b. John came.  $p$   
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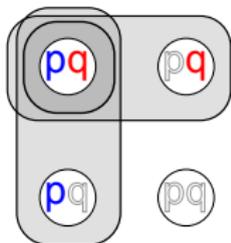
(3a)  $[p \vee q \vee (p \wedge q)]$

(3b)  $[p]$

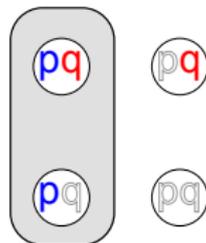
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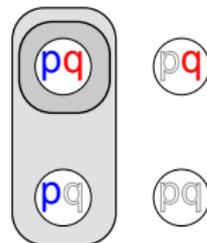
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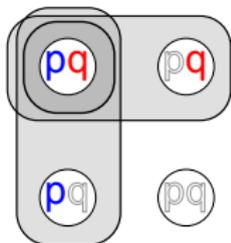
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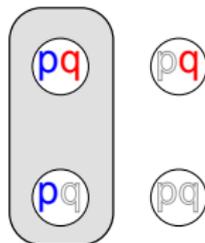
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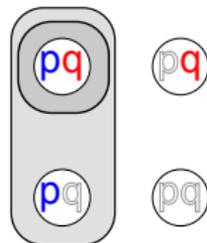
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### Entailment

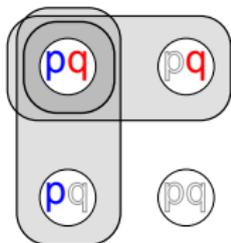
$A$  entails  $B$ ,  $A \models B$ , iff

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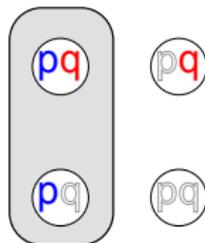
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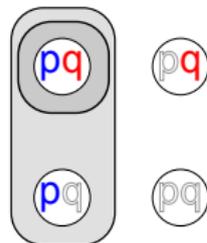
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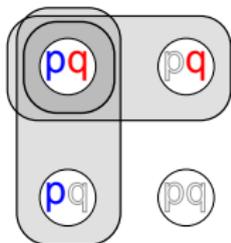
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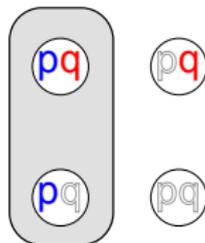
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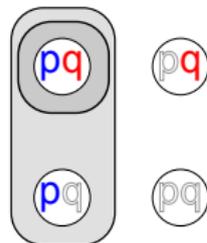
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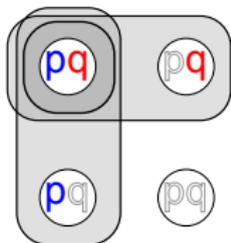
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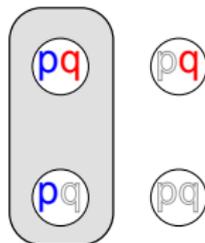
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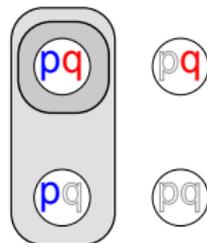
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Now, (3c)  $\models$  (3a), but (3b)  $\not\models$  (3a).

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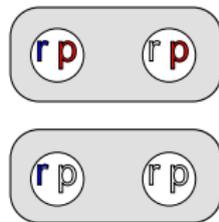
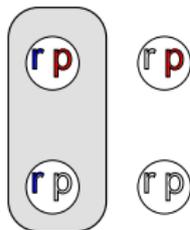
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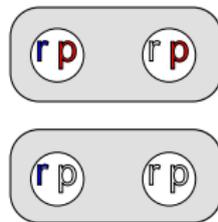
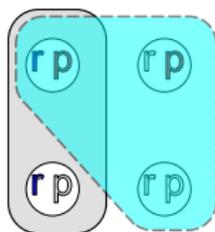
## 2.3. Pragmatics

### The relevant maxims

For a cooperative speaker with information  $s$ , responding  $R$  to  $Q$ :

1. **Quality:**  $s \subseteq \cup R$ .
2. **Quantity:** For all  $Q' \subseteq Q$ , if  $s \subseteq \cup Q'$  then  $\cup R \subseteq \cup Q'$ .
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- (4) Did John go to the party?  
It was raining.



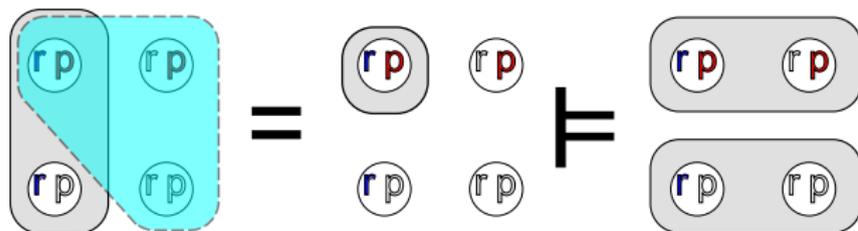
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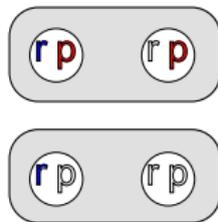
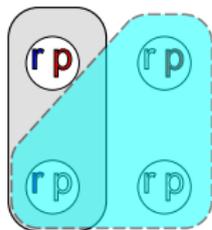
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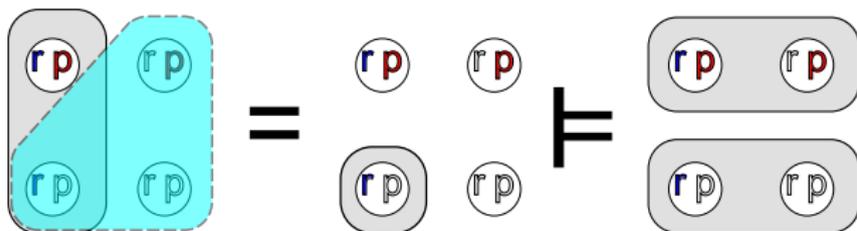
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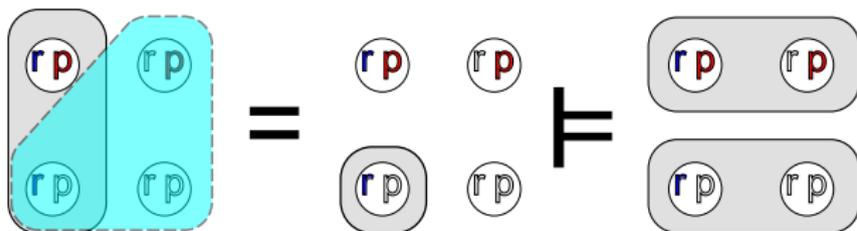
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(4) Did John go to the party?

It was raining.  $\rightsquigarrow$  If it rained, John {went / didn't go}.



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## 3. Predictions

3.1. Examples

3.2. General results

## 3.1. Examples

(3) a. John came, Mary came, or both came ( $p \vee q \vee (p \wedge q)$ )

b. John came. ( $p$ )

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1.  $s \subseteq |p \vee (p \wedge q)|$

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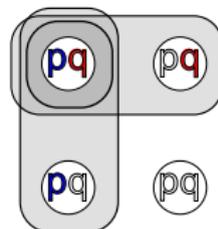
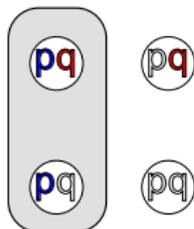
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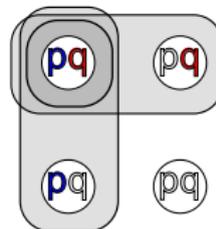
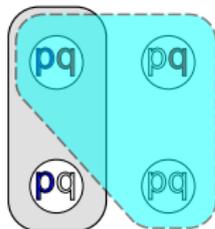
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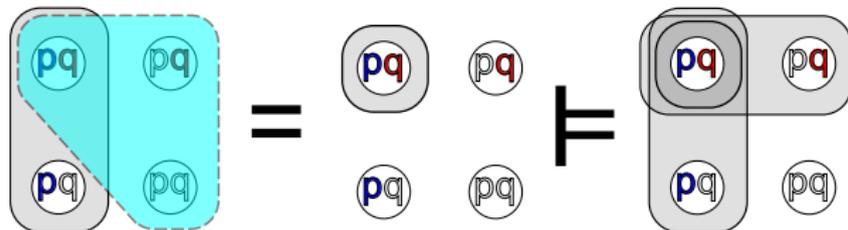
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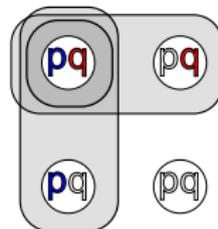
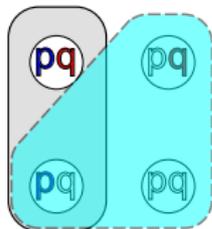
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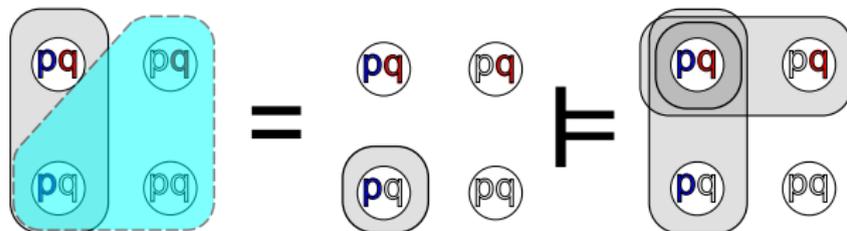
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## 3.2. General results

Recall:  $A$  entails  $Q$ ,  $A \models Q$ , iff

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### Relation implicature for singleton answer

And if responding  $\{a\}$  to  $Q$  for some  $a \in Q$ :

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## 4. Discussion

- 4.1. Opinionatedness
- 4.2. 'Alternatives'
- 4.3. Semantics
- 4.4. Other maxims of Relation
- 4.5. Relatedness and knowledge
- 4.6. Logical relatedness

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Counterexample:

- (5) I'm asking the wrong person, but who came to the party?  
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Instead, in my approach:

- ▶ The Relation implicature implies 'conditional opinionatedness'.

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- ▶ Hence something stronger is implied: exhaustivity.

Beware

- ▶ These 'alternatives' are fully determined by the maxims.
- ▶ Speakers need not reason in terms of alternatives.

## 4.3. Semantics

### Restriction

$A$  restricted to  $b$ ,  $A_b := \{a \cap b \mid a \in A, a \cap b \neq \emptyset\}$

### Semantics (Roelofsen, 2011)

1.  $[p]$  =  $\{\{w \in \mathbf{Worlds} \mid w(p) = \text{true}\}\}$
2.  $[\neg\varphi]$  =  $\{\overline{U[\varphi]}\}$  if  $\overline{U[\varphi]}$  is nonempty;  $\emptyset$  otherwise.
3.  $[\varphi \vee \psi]$  =  $([\varphi] \cup [\psi])|_{|\varphi| \cup |\psi|} = [\varphi] \cup [\psi]$
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Attentive semantics is not the only suitable semantics:

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Minimally, the semantics must lack the *absorption laws*:

- ▶ Absorption:  $p \vee (p \wedge q) \equiv p \equiv p \wedge (p \vee q)$

## 4.4. Other maxims of Relation

i.  $R_s \models Q$

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(4) Did John go to the party?

It was raining.  $\rightsquigarrow$  If it rained, John {went / didn't go}.

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$R_s \vDash Q$       'the speaker *knows how*  $R$  is related to  $Q$ '

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*Within a world, everything is related.*

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*Logical consequence is logical relatedness.*

End of Part I

# Two puzzles

(1) Of John, Bill and Mary, who came to the party?

a. John came ↘.       $\leadsto$  Mary and Bill didn't.

b. John came ↗.

$\leadsto$  ...wait, there's more.

$\leadsto$  ...perhaps that implies sth. about M&B?

$\leadsto$  ...but I'm not sure.

$\leadsto$  ...did I make myself clear?

▶ Part I

▶ Part II

## Part II

5. Analysis
6. Predictions
7. Discussion

## 5. Analysis

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c. John came ↗<sup>H</sup>.

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- b. John came ↗<sup>L</sup>.
- ↪ ...wait, there's more. (Quantity)
  - ↪ ...perhaps that implies sth. about M&B? (Relation)
- c. John came ↗<sup>H</sup>.
- ↪ ...but I'm not sure. (Quality)
  - ↪ ...did I make myself clear? (Manner)

### Proposal

1. The final rise marks the violation of a maxim.
2. Its pitch conveys the severity of the violation (low: Quantity/Relation; high: Quality/Manner).

## 6. Predictions

6.1. Example

6.2. General results

## 6.1. Example

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### Readings

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(Quantity)

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(Relation)

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(Quality)

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(Except maybe in sarcastic pretense?)

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(i)  $s \notin \overline{UA} \cup UQ$ ; or

(ii) for **some**  $q \in Q$ ,  $s \notin \overline{UA} \cup \bar{q}$  and for **all**  $a \in A$ ,

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### Relation violation on singleton answer

And if responding  $\{a\}$  to  $Q$  for some  $a \in Q$ :

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### Quantity violation

For some  $Q' \subseteq Q$ ,  $s \subseteq \cup Q'$  and  $\cup R \not\subseteq \cup Q'$ .

## 7. Discussion

- 7.1. Objective/subjective cooperativity
- 7.2. Existing work
- 7.3. Other uses of the rise
- 7.4. Evoked questions

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But an account based on *objective* maxims would also work:

- ▶ Final rise: 'For some maxim, I'm not sure whether or how I comply with it'.

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Gunlogson (2008): (high) final rise marks the speaker's commitment to the proposition expressed as *contingent*.

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- ▶ This is my Relation reading *plus* the Quality implicature

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Future work!

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It was raining  $\searrow$ .  $\rightsquigarrow$  *He {likes / dislikes} rainy parties*

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*Perfect for turning distributed knowledge common.*

End of Part II

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- ▶ then *exhaustivity is a conversational implicature*.

## Part II:

- ▶ If, furthermore, the final rise conveys the violation of a maxim
- ▶ then the many readings of the final rise are predicted.

## The End

### Article

- ▶ Attentive Pragmatics: Exhaustivity and the Final Rise.  
*ESLLI StuS proceedings* ([staff.science.uva.nl/~westera/](http://staff.science.uva.nl/~westera/))

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## Appendix A. 'Embedded' implicatures

Chierchia, *et al.* (2008), and much subsequent discussion

(6) Which books did every student read?

Every student read O. or K.L.  $\leadsto$  No student read both.

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In the present theory:

- ▶ The maxims are sensitive to attentive content

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# Appendix A. 'Embedded' implicatures

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The 'embedded' implicature of (6) is in fact predicted.

## Appendix B. 'Gricean'?

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Besides: this is the only way.

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