

Exhaustivity without the competence assumption

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- (1) Of John, Bill and Mary, who came to the party?
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An implicature, the supposition of which is necessary for maintaining the assumption that the speaker is cooperative.

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Wrong, it does!

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What about a context negating only the competence *assumption*?    

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- ▶ How to enforce exhaustivity.
- ▶ ...and how to prevent it.

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2. Diagnosis
 3. Theory
 4. Results

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maxim of
Relation

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- 3.1. Translation into logic
- 3.2. Semantics
- 3.3. Pragmatics

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- (6) a. Of John, Bill and Mary, who came to the party?
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- (6) a. John came, or Mary, or John and Mary. $p \vee q \vee (p \wedge q)$
b. John came. p
c. John came, or Mary and John. $p \vee (p \wedge q)$

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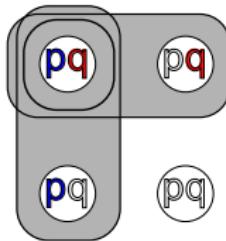
$$(6a) \quad [p \vee q \vee (p \wedge q)]$$

$$(6b) \quad [p]$$

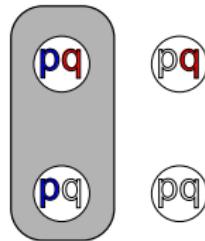
$$(6c) \quad [p \vee (p \wedge q)]$$

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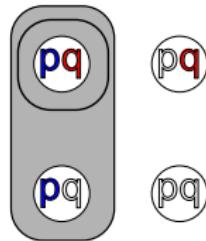
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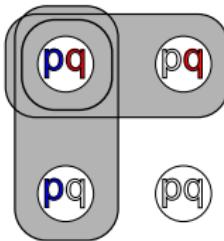
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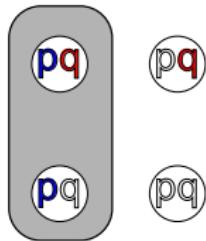
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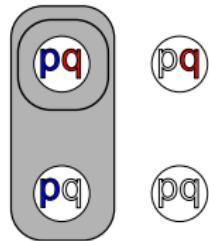
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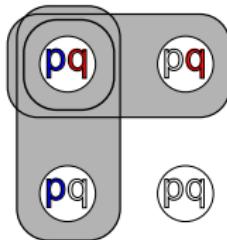
Entailment

A entails B , $A \vDash B$, iff

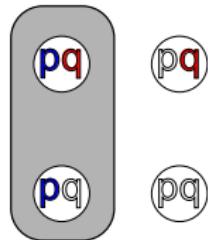
- $\bigcup A \subseteq \bigcup B$; and
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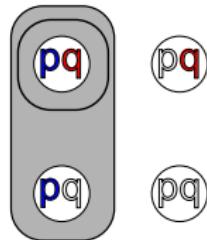
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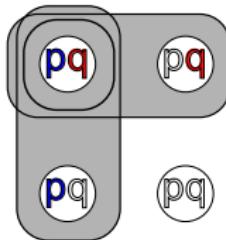
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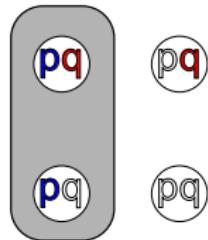
→ at least as informative

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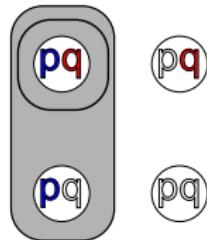
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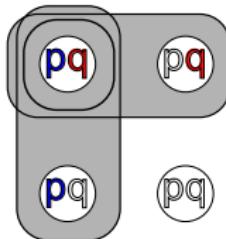
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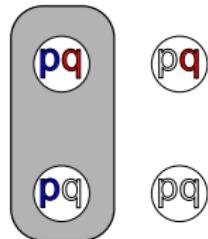
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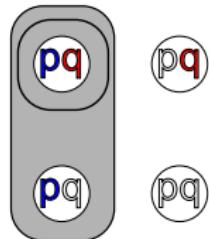
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→ at least as informative

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Now, (6c) \vDash (6a), but (6b) $\not\vDash$ (6a).

3.3. Pragmatics

The relevant maxims

1. **Quality:**
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For a cooperative speaker with information s , responding R to Q :

1. **Quality:**
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The relevant maxims

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

1. **Quality:** $s \subseteq \bigcup R$.
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3. **Relation:**

3.3. Pragmatics

The relevant maxims

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(7) Did John go to the party?

It was raining.

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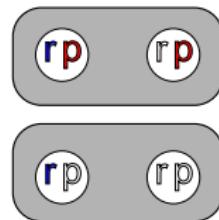
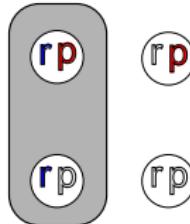
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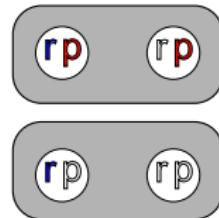
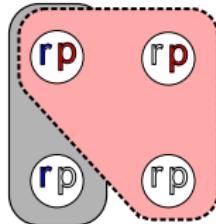
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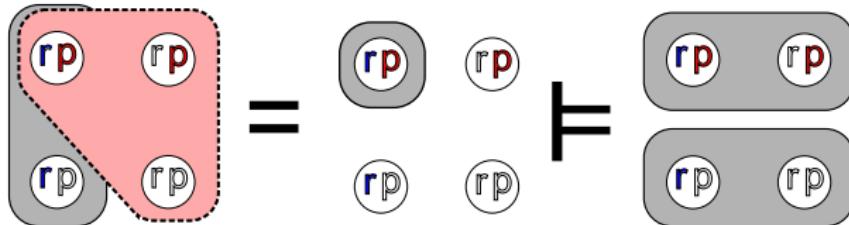
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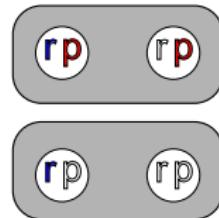
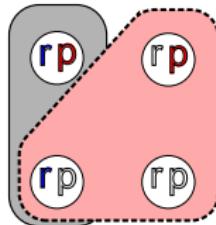
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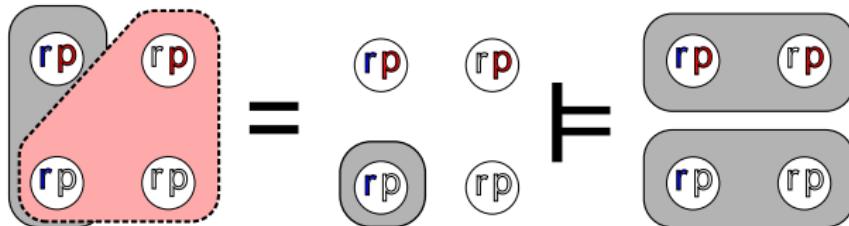
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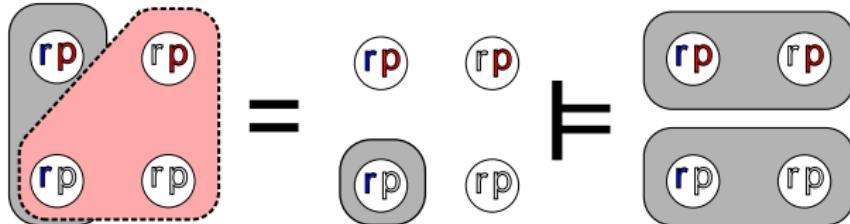
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(7) Did John go to the party?

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



3.3. Pragmatics

(cf. Grice '75; Groenendijk & Stokhof '84; Roberts '96; v.Rooij & Schulz '04)

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4. Results

- 4.1. Examples
- 4.2. What's happening
- 4.3. 'Alternatives'?
- 4.4. Main conclusion

4.1. Examples

- (6) a. John came, Mary came, or both came ($p \vee q \vee (p \wedge q)$)
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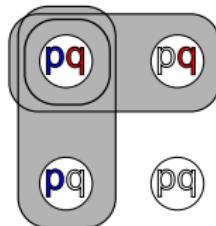
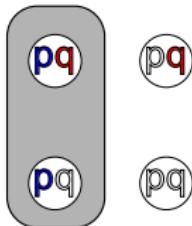
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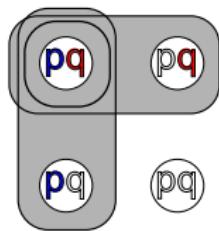
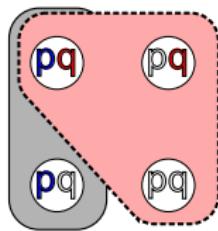
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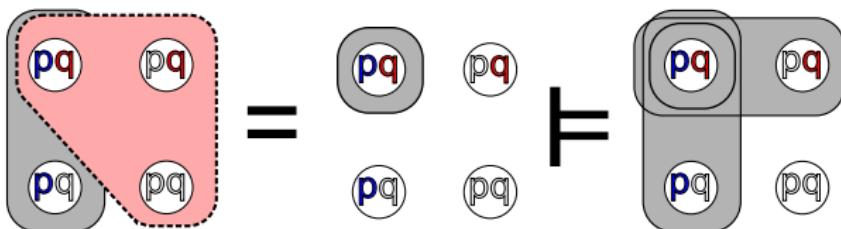
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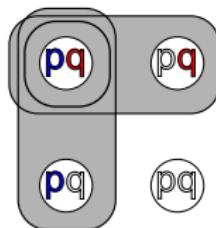
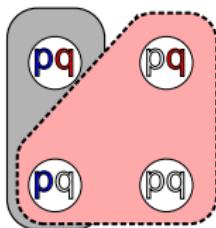
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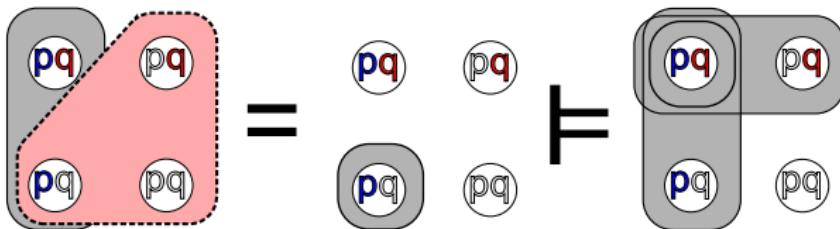
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4. $s \subseteq \overline{|q|}$ *exhaustivity!*

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Crucially:

- ▶ Competence is not entailed by cooperativity.
- ▶ It is merely entailed by cooperativity *plus what is said*.

4.3. ‘Alternatives’

Existing approaches (since forever):

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Beware:

- ▶ Speakers need not reason in terms of alternatives.

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- ▶ If pragmatic reasoning is sensitive to *attentive content* (which it must be, to distinguish between (5b) and (5c));
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End of Part I

Part II: Intonation and exhaustivity

- 5. Focus
- 6. The final rise

5. Focus

- 5.1. Prerequisites for exhaustivity
- 5.2. Domain restriction
- 5.3. Focus
- 5.4. Hungarian vs. English focus
- 5.5. Some more predictions
- 5.6. But... experiments!

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(9) Of John, Bill and Mary, who came?

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- ▶ Exhaustivity no longer depends on a competence assumption.
- ▶ It only depends on a mutual assumption of cooperativity.
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(cf. Bob's work on typicality.)

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- (15) Of Amy, Ben, and John, $[\text{Amy and Ben}]_F \text{ saw Cleo.}$
 $\not\models$ Of Amy, Ben, and John, $[\text{Amy}]_F \text{ saw Cleo.}$

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And finally:

- (4) # Not sure about Mary, but - of J, B, M - John and Bill came.
(2) (Uttered when speaker is known not to be competent)
Bonnie stole [some]_F of the pears.

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- ▶ Intonation is not controlled for. *(coming up next)*

6. The final rise

- 6.1. The sentence-final rise
- 6.2. Deriving the readings
- 6.3. General results
- 6.4. Contrastive topic (work in progress)
- 6.5. The bigger picture

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John came ↴.

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- ↗ ...but I'm not sure.
- ↗ ...did I make myself clear?

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

John came ↗^L. ↗ Mary and Bill didn't.

≈ ...wait, there's more.

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c. John came ↗^H.

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This proposal is new in its generality, not in spirit.



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- (18) Of J and M, who came to the party?
John came \cancel{x} .

$$\begin{aligned}(p \vee q \vee (p \wedge q)) \\ (p)\end{aligned}$$

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- (18) Of J and M, who came to the party? $(p \vee q \vee (p \wedge q))$
John came ~~↗~~.

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- ...wait, there's more. (Quantity)
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- (18) Of J and M, who came to the party? $(p \vee q \vee (p \wedge q))$
John came ↗.
1. $s \subseteq |p|$ (Quality)
 2. $s \notin |q|$ (Quantity)
 3. $s \subseteq |\overline{p}| \cup |q|$ or $s \subseteq |\overline{p}| \cup |\overline{q}|$ (Relation)

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 4. The speaker thinks she is clear, concise, etc. (Manner)

Readings

- ✓ ...wait, there's more. (Quantity)
- ✓ ...perhaps that implies sth. about Mary? (Relation)
- ✓ ...but I'm not sure. (Quality)
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- (18) Of J and M, who came to the party? $(p \vee q \vee (p \wedge q))$
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Noteworthy:

- ▶ For the Relation readings, *attentive content* is crucial.
- ▶ In all but the last reading, exhaustivity is absent.

6.4. Contrastive topic

Work in progress

- ▶ *Focus:* the function of nuclear stress in a *falling* phrase.

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A compositional account in terms of the final rise:

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A compositional account in terms of the final rise:

- ▶ Construct QUD and assertion in parallel.
- ▶ Nuclear stress influences how the QUD is built up.
- ▶ Rise indicates a maxim violation for the assertion relative to the QUD *at that point in the derivation*.

6.5. The bigger picture

In English (and related languages)

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- ▶ Discourse particles ('well', 'actually', 'by the way')
- ▶ Facial expressions, gestures, ...

End of Part II

7. Main conclusions

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Part I: Exhaustivity is a conversational implicature

- ▶ If pragmatic reasoning is sensitive to *attentive content*
- ▶ then *exhaustivity is a conversational implicature.*

Part II: Intonation and exhaustivity

- ▶ Focus enables us to make strong predictions.
- ▶ Beware of implicit domain restrictions and intonation.

The End

Papers (see staff.science.uva.nl/~westera/)

- ▶ *Exhaustivity through the maxim of Relation*
(LENLS proceedings)
- ▶ *'Attention, I'm violating a maxim!'*
(SemDial proceedings, Amsterdam, next month)
- ▶ *Contrastive topic and non-cooperativity*
(To be presented at QID, Amsterdam, next month)

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Grice on cancellability

A putative conversational implicature that p is explicitly cancellable if [...] it is admissible to add “but not p”, or “I do not mean to imply that p” [...].

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[...] since it is possible to opt out of the observation of [the Cooperative Principle], it follows that a conversational implicature can be cancelled in a particular case. (p.57)

Textbook examples

Some typical examples of cancellation:

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For a consistent speaker to make a conversational implicature and subsequently cancel it.

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4. The speaker would be either uncooperative, or inconsistent.

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In sum:

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This makes the Gricean story much more *generative*...

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(9) Each of the students read Othello or King Lear.

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The problem

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Many 'embedded' implicatures are in fact predicted.

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Contexts where, supposedly, exhaustivity is absent:

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(Alternatively, use a *final rise*...)

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. $[\neg\varphi] = \overline{\cup[\varphi]}$ if $\overline{\cup[\varphi]}$ 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: $p \vee (p \wedge q) \equiv p \equiv p \wedge (p \vee q)$

Semantic desiderata

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- ▶ Questions, the responses to which may be exhaustified, are *not* partitions.

(cf. Groenendijk and Stokhof, 1984)

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Besides: this is the only way.

Focus vs. 'only'

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- (14) If $[John]_F$ was there, Mary was there. (c.f., Horn, 1972)
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But at least for 'simple' sentences:

- ▶ '[Subject]_F predicate' \rightsquigarrow 'only [Subject]_F predicate'.

Formal results

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

- (i) $\bigcup A \subseteq \bigcup Q$; and
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(7) Did John go to the party?

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

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Within a world, everything is related.

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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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(25) There's money in box A or in box B!

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7. $s \subseteq \overline{|p| \cap |q|}$ (from 4, 5 and 6)

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