Conditional Strengthening, Again

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Experimental Pragmatics (XPRAG) 2009, Lyons

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Extra-semantic inferences

1. Inferences from the (assumed) truth of the asserted sentence

2. Inferences from the fact that the sentence was asserted

Extra-semantic inferences of the first kind

- *p* is asserted

- hearer believes that if p, q

- hearer assumes that p (because (?) it was asserted)

- hearer concludes q (by modus ponens)

Extra-semantic inferences of the second kind

- *p* is asserted

- hearer believes that if *q* were the case, *p* would not have been asserted

- hearer concludes *not q* (by modus tollens)

What I don't care about

- when and whether the speaker bears responsibility for an extra-semantic inference

- when and whether an extra-semantic inference is part of the perceived "(utterance/speaker) meaning"

- how the inference mechanism is implemented (i.e. I'm working on the "computational" level, cf. Geurts yesterday)

Standard Example

- *Some Ps are Qs* is asserted

- The hearer believes that if the speaker believed (i) that all Ps are Qs and (ii) that saying so would have been relevant, then the speaker would have asserted *all Ps are Qs* (rather than *some Ps are Qs*).

- So, the hearer concludes that either the speaker does not believe that all Ps are Qs or that saying so wouldn't have been relevant.

- Further, inferencing may lead to the conclusion that not all Ps are Qs.

Conditional Perfection
(Geis & Zwicky 1971)

(1) If you mow the lawn, I'll give you five dollars.

(2) If John leans out of the window any further, he'll fall.

(3) If you disturb me tonight, I won't let you go to the movies tomorrow.

(4) If you heat iron in a fire, it turns red.

Perfection

- *if p, q*

- "invites the inference" that *if not p, not q*

- together *if p, q ≈ q if and only if (iff) p*

Context

- Work by van der Auwera (1997) and Horn (2000)

- Horn: "I can only close by asserting without the slightest justification – or better yet by presupposing – that the last words on conditional perfection have now been spoken".

- NOT!

Outline

- Background on conditionals

- Against Geis & Zwicky's claim

- Deriving conditional strengthening

- The road to true perfection

- How to tell what's relevant (or what's required)

Background Assumptions on Conditionals

if p, q is true in a possible situation *s* iff

$\forall s' : \ s' \in C(s)$ & *p* is true in $s' \longrightarrow q$ is true in s'

where *C(s)* is the set of situations relevantly accessible from *s*

Not so perfect after all

(Lilje 1972, Boër & Lycan 1973)

(1) If it doesn't say 'Goodyear', it isn't Polyglas.

(2) If this cactus grows native to Idaho, then it's not an Astrophytum.

(3) If the axioms aren't consistent with each other, then every WFF in the system is a theorem.

(4) If John quits, he will be replaced.

Lilje on lawn-mowing

A person to whom (1) is addressed could well ask whether there might not be some other way he could earn five dollars, by cleaning up the garage or whatever. That is, if he does want the five dollars, and does not want to mow the lawn, he need not simply conclude that he's out of luck. Nor need the person who utters (1) intend to suggest that. (1) could well be the first item on a list of responses to the question, 'How can I earn five dollars?'. (Lilje 1972)

Still strenghtened

- The speaker of (1) does invite the inference that the $5 is not free for the taking.

- q is not true no matter what.

Quantity Implicature

- Need to justify the assumption that if (the speaker knew that) *q* were true no matter what, the speaker wouldn't have asserted *if q, p*

- *q no matter what* is a logically stronger competitor to *if p, q*

Grice reformulated

A speaker S makes correct use of a sentence A just in case:

(i) S believes that A is true;

(ii) S believes that A is relevant to the conversation;

(iii) For all sentences B of which A is a logical consequence, (i) and (ii) do not both hold with respect to B

q no matter what

- *q no matter what = for all r: if r, q*

- *q no matter what* entails *if p, q*

The strengthening inference

- The speaker asserted *if p, q*

- If the speaker believed *q no matter what* and believed it to be relevant, the assertion of *if p, q* wouldn't have been correct

- The speaker doesn't believe *q no matter what*

- The speaker believes that *not: q no matter what*

Not: q no matter what

not: q no matter what =
not: for all r: if r, q =
for some r: not (if r, q) =
for some r: possible that r & not q =
in some situation: not q

Lawn-mowing again

(1) If you mow the lawn, I'll give you five dollars.

Q: If the speaker were giving the hearer five dollars no matter what, should they say so?

End of Part 1

Conditionals typically trigger a strengthening inference (that q is not true no matter what), which can be modeled as a quantity implicature.

They do not necessarily give rise to a perfected interpretation.

A question to ponder

Is *q no matter what* always relevant when *if p, q* is asserted (and is relevant)?

Or are there cases when even this strengthening does not arise?

Part 2

The road to true perfection

The road to true perfection

We can suppose, very roughly, that in *One is allowed to sit in this seat if one is disabled or one is older than 70* the word *if* keeps its merely sufficient condition meaning, and that the utterance situation suggests that if other sufficient conditions (allowing to sit there) did exist, they would have been mentioned, so that the only mentioned property (to be disabled or older than 70) is the only property which gives the right to sit there (presumption of exhaustivity).

(Cornulier, 1983: 247)

A slight variant

One is allowed to park in this spot if one is disabled or if one is older than 70 posted in a busy supermarket parking lot.

What is the scale?

- van der Auwera-style explicit list:
  if p, q and if r, q and if s, q
  if p, q and if r, q
  ↑ if p, q

- Cornulier-style presumption of exhaustivity:
  If there were another sufficient condition for q, it would have been mentioned.

The Symmetry Problem

- Why don't we consider *q iff p* as a competitor?

- It (unilaterally) entails *if p, q.*

- So, why not reason that the speaker asserted *if p, q* because they didn't believe
  q iff p?

- We would derive that there are other sufficient conditions for *q* (an unobserved inference).

Solutions

- Complexity (Atlas & Levinson, Katzir)

- "Given to us" (Gazdar)

- Monotonicity (Matsumoto)

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Perfection

- True perfection arises when "the utterance situation suggests that if other sufficient conditions did exist, they would have been mentioned".

- When and how does the utterance situation suggest such a thing?

The question under discussion

If p, q can give information in answer to the following kinds of explicit or implicit questions:

  1. *if p, will q?*

  2. *if p, what?*

  3. *when q?*

Only questions of the third kind trigger perfection.

If p, will q?

(1) Q: Will you give me $5 if I mow the lawn for you?
A: Sure. (I will give you $5 if you mow the lawn).

(2) Q: Will the TV work if it is humid?
A: Yes. (The TV will work if it is humid).

If p, what?

- A: John is in Amherst today.

  ($Q_{implicit}$: What (of current interest) follows from John's being in Amherst today?)

  B: If he is in Amherst, he'll be home late tonight.

- I want you to mow the lawn. If you mow the lawn, I will give you $5.

For example, when q?

- Mention-some questions:
  Q: Where around here can I buy Italian newspapers?
  A: You can get them at Out of Town News in Harvard Square.

- A teenager may ask "How can I earn five dollars?" An exhaustive list would not be required. One item might be enough if it is acceptable to both parties. So we say: "I'll give you five dollars if you mow the lawn". No perfection arises.

Among certain *p*s, which are such that *if p, q?*

- Q: Will you be upset if I call you at home tonight?
  A: I will be upset if you call me after midnight.

Under which conditions, *q*?

- One is allowed to park here in this spot if one is disabled or if one is older than 70.

Conclusion

- Conditional strengthening and conditional perfection are tractable in a Gricean framework.

- Question: what is the interplay of relevance of competitors and what is required in the conversation? (cf. Green 1995)