Tutorial ‘Introduction to Semantic Theory’ (No. 4)

Conversational implicatures

C&MG 4.5, G. 6.3–6.8

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Session 9

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Our agenda today

- Recap of last session

- Something new: Conversational Implicatures, Quantity and ignorence implicatures,

- **Some hints to help you with assignment 10**

What we have covered so far

The Co-operative Principle(PoC)

In everyday conversation, we have **the default assumption** that:

Our interlocutors are **co-operative**. Like us, they want to use language to communicate as efficiently and rationally as possible.

The Maxims of Conversation

The maxim of quality (truthfulness) → B_s^w(p) and s has evidnece that p

The maxim of quantity (informativeness)

The maxim of relevance ("relevance") → opinionatedness/Contextual entailment

The maxims of manner (perspicuity)

Broadening relevance with contextual entailment

For any context *c*, world *w*, and proposition *p*, *p* is relevant in *c* if there is at least one discourse participant *x* and one proposition *q* such that *x* is unopinionated wrt. the question Is *q* true in *w*? and *p* *contextually entails* *q*.

Tools available in our current inventory

What is important for this course:

Make a Judgement about the (un)naturalness of certain conversation and prove it using different inference notions.

(quality)

(relevance)

(closure under negation)

(closure under conjunction)

Closure of relevance under belief

Our current inventory can still be expanded. Consider (1):

(1) A: Did John win?

B: I **think/believe/have no doubt** that he won.

B's reply under belief is not odd at all.

[λw'. John won in w'] relevant (relevance)

B_s^w [λw'. John won in w'] relevant **<u>(closure under belief)</u>**

Expanding our inventory

What is important for this course:

Make a Judgement about the (un)naturalness of certain conversation and prove it using different inference notions.

(quality)

(relevance)

(closure under negation)

(closure under conjunction)

(closure under belief)

Another kind of pragmatic inference: Implicatures

The inferences drawn on the basis of the maxims are called **implicatures**.

A standard textbook definition (Levinson 1983)

p is a conversational implicature of an utterance by the speaker *S* in context *C* iff:

i. *S* is presumed to be at least observing the maxims (in the case of **floutings**) the cooperative principle

ii. In order to maintain this assumption it must be supposed that *S* believe that *p*

iii. *S* believes that it is mutual, public knowledge of all the discourse participants

that to preserve (i), one must be assume that *S* believes *p*.

Flouting of a conversational maxim

Speakers can **flout** (“blatantly/overtly fail to fulfill”) one or more maxims conversational maxims.

(2) A: Did John win?
S: He was leading at the beginning.

Intuitively, S's reply has the implicature that S does not know whether Joh won. But it does not follow from the semantic meaning alone. How come?

Flouting of a conversational maxim

The question to be decided is In which city does Mary live.

Assume S is cooperative.

B_s^w (λw'. [[John was leading at the beginning]]$^{w'}$)   (quality implicature, **QI**)

B_s^w (λw'. [[John was leading at the beginning]]$^{w'}$ is relevant)   (relevance implicature, **RI**)

S fails to provide the information A needs which flouts **the maxim of quantity,** which requires that a speaker gives as much information as possible.

Maxim of quantity

For any context c, world w and declarative sentences $\boldsymbol{\phi}$ and $\boldsymbol{\psi}$, if $[\lambda w' .\ [\![\boldsymbol{\phi}]\!]^{w',g}]$ is more informative in c than $[\lambda w' .\ [\![\boldsymbol{\psi}]\!]^{w',g}]$, $[\lambda w' .\ [\![\boldsymbol{\phi}]\!]^{w',g}]$ and $[\lambda w' .\ [\![\boldsymbol{\psi}]\!]^{w',g}]$ are both relevant in c, and $B_s^w(\lambda w' .\ [\![\boldsymbol{\phi}]\!]^{w',g})$ and $B_s^w(\lambda w' .\ [\![\boldsymbol{\psi}]\!]^{w',g})$, s should utter $\boldsymbol{\phi}$.

p is more informative in c than q iff p asymmetrically contextually entails q.

Quantity implicature (QUI)

Assume A is cooperative.

$[\lambda w'. [[\text{John won}]]^{w'}]$ (relevance)

$[\lambda w'. [[\text{John won}]]^{w'}]$ is more informative in c than

$\lambda w'. [[\text{John was leading at the beginning}]]^{w'}$

If $B_s^w(\lambda w'. [[\text{John won}]]^{w'})$, S would have uttered *John won.*

(quantity)

SInce S did not utter the more informativ one,

$\neg B_s^w(\lambda w'. [[\text{John won}]]^{w'})$ **(quantity implicature, QUI)**

Weak/strong pragmatic meaning

¬ $B_s^w(\lambda w'.\ [[\text{John won}]]^{w'})$ **(QUI)**

This is compatible with s being **unopinionated** about whether Joh won, which is **pragmaticly weak.**

This is not the only implicature we can get. Consider one possible context for (2):

(2) *Context c: A knows that S is a big football fan and S watched the whole game in which John participate last night.*

A: Did John win?

S: He was leading at the beginning.

Based on c, A would assume S is opinionated wrt. whether John won or not.

The opinionatedness assumption

In many situations conversationalists make the assumption that s is opinionated. That is, s is opinionated wrt. the truth of the alternatives of s's utterances.

for any relevant alternative $\boldsymbol{\psi}$ to utterance $\boldsymbol{\phi}$:

$$B_s^w(\lambda w' \,.\, [\![\boldsymbol{\psi}]\!]^{w',g}) \vee B_s^w \neg(\lambda w' \,.\, [\![\boldsymbol{\psi}]\!]^{w',g})$$

$$\begin{aligned}\equiv\ &\forall w'[w' \text{ is compatible with what } s \text{ believes in } w \rightarrow [\![\boldsymbol{\psi}]\!]^{w',g} = 1] \vee \\ &\forall w'[w' \text{ is compatible with what } s \text{ believes in } w \rightarrow [\![\boldsymbol{\psi}]\!]^{w',g} = 0]\end{aligned}$$

(Gazdar 1979, Groenendijk and Stokhof 1984, Sauerland 2004)

Strengthening by the opinionatedness assumption

$\neg\ B_s^w(\lambda w'.\ [[\text{John won}]]^{w'})$ **(QUI)**

$= \exists w'[w' \text{ compatible with s's beliefs in } w \rightarrow [[\text{John won}]]^{w'}=0]$

A assumes S is opinionated wrt. whether John won or not.

$B_s^w\ (\lambda w'.\ [[\text{John won}]]^{w'})\ \text{v}\ B_s^w\ \neg\ (\lambda w'.\ [[\text{John won}]]^{w'})$ **(opinionatedness)**

$= \forall w'[w' \text{ compatible with s's beliefs in } w \rightarrow [[\text{John won}]]^{w'}=1]\ \text{v}$

$\forall w'[w' \text{ compatible with s's beliefs in } w \rightarrow [[\text{John won}]]^{w'}=0]$

$\Rightarrow\ \forall w'[w' \text{ compatible with s's beliefs in } w \rightarrow [[\text{John won}]]^{w'}=0]$

(QUI + opinionatedness)

Strengthening by the opinionatedness assumption

⇒ $\forall w'[w'$ compatible with s's beliefs in $w \rightarrow [[\text{John won}]]^{w'}=0]$

(QUI + opinionatedness)

This implicature is compatible with s being **opinionated** about whether Joh won. By uttering "John was leading at the beginning", s indicates that John was only leading at first, not the whole game, thus John didn't win.

This implicature strengthened by attributing opinionatedness to s is **pragmaticly stronger** as the other one**.**

Ignorance implicatures

However, there are cases where the basic/weaker pragmatic meaning cannot be strengthened by opinionatedness.

Consider (3) where S replys nothing to A's question:

(3) A: Did John win?

S: #...

If we assume S knows the answer to A's question, being silent is uncooperative thus pragmatically odd.

However, based on the knowledge we've gained from daily communcation, being silent is still odd even though you may be **unopinionated. Why?**

Uttering the ignorence or not?

In (3'), S utters his **ignorence.** Do you think (3') is pragmatically more natural than (3) where S stays silent?

(3') A: Did John win?

S: I have no idea.

Our intuitions may be right: Being silent is unnatural in a conversation. **Uttering the ignorence seems necessary.**

The question here is, how can we derive this necessity from our assumptions about relevance and the maxim of quantity? This is also what we need to do for assignment 10.

Hints on assignment 10

Recall what we derived under relevance from the previous lab class.

A uttered *Did John win?* in c.

p ($\lambda w'. [[\text{John won}]]^{w'}$) relevant (relevance)

$\neg p$ relevant (closure under negation)

$B_s^w p$ relevant (closure under belief)

$B_s^w \neg p$ relevant (closure under belief)

B_s^w p $\wedge$ $B_s^w \neg$p relevant (closure under conjunction)

Ignorence about *p* seems relevant here.

Hints on assignment 10
(This is only my personal understanding, there are other ways to solve the problem)

However, let's not forget that “closure under belief” is motivated by the observation that “**silence is uncooperative**”:

if *p* is relevant, but the speaker S doesn’t have a belief one way or the other about the truth of *p*, then S is obligated to utter his ignorance. Remaining silent means S is uncooperative because the maxim of quantity requires the speaker to convey her ignorance about *p*.

To conclude, the S's reply to a question must entail his ignorance when s is unopinionated wrt. *p*. Does silence entails ignorance? Not really.

Ignorance inferences must be derived in grammar

Two options:

- Case 1: Either the utterance S entails speaker ignorance about p,

e.g. s utteres “I don't know/I have no idea who won” as in (3'), which entails ignorence.

- Case 2: Silence as in (3) can give rise to ignorence inferences **only pragmatically**. Is this possible?

S uttered ... in c. Since S uttered nothing, there is no semantic material which entails ignorence:

[[...]] $\not\models$ $\neg B_s^w$ p $\wedge$ $\neg$ $B_s^w \neg$p

The maxim of quantity licenses the inference of a contradiction

[[...]] $\nvDash$ $\neg B_s^w p \wedge \neg B_s^w \neg p$, this means silence entails neither the conjuncts.

First conjunct: [[...]] $\nvDash$ $\neg B_s^w p$

$B_s^w p$ relevant (relevance)

q: $\neg B_s^w p$ relevant (closure under belief, closure under negation)

In the lab class, we derived that silence amounts to uttering the tautology T. q is clearly more informative than T.

If B_s^w q, S should have uttered “I don't believe John won”. (quantity)

Since S did not utter so, $\neg B_s^w$ q, in other words, $\neg B_s^w(\neg B_s^w p)$ (QUI)

The maxim of quantity licenses the inference of a contradiction

$[[...]] \nvDash \neg B_s^w p \wedge \neg B_s^w \neg p$, this means silence entails neither the conjuncts.

Second conjunct: $[[...]] \nvDash \neg B_s^w \neg p$

$B_s^w \neg p$ relevant (relevance, closure under belief)

r: $\neg B_s^w \neg p$ relevant (closure under negation)

In the lab class, we derived that silence amounts to uttering the tautology T. r is clearly more informative than T.

If B_s^w r, S should have uttered “I don't believe John didn't win”. (quantity)

Since S did not utter so, $\neg B_s^w$ r, in other words, $\neg B_s^w (\neg B_s^w \neg p)$ (QUI)

The maxim of quantity licenses the inference of a contradiction

This is what we have in hand now as shown in (4)

(4) $\neg\ B_s^w(\neg B_s^w p)$ and $\neg\ B_s^w(\neg B_s^w \neg p)$

Recall the notions on belief and ignorance: A speaker must know what he is ignorant about *p*, in other words, the speaker must know what he believes or not about *p*.
Consider (4), which is clearly contradictory:

(5) A: Did John win?
B: # I don't know about this. I don't know if I know about this.

This means: If s is ignorant about *p*, $B_s^w(\neg B_s^w p)$ and $B_s^w(\neg B_s^w \neg p)$
This is contradictory to (4). You can' believe and and not believe the same thing at the same time.

Ignorance inferences must be derived in grammar

To conclude: Ignorance inference can only be derived **in grammar**. It can no longer be derived by quantity reasoning, since that would yield a contradiction.

By remaining silent, speakers are not able to convey their ignorance grammatically. Therefore, the speaker is underinformative: Nothing in the silence **entails** any information about whether John won or not.

silence [[...]]   irrelevant   (relevance)

S's reply is irrelevant and pragmatically odd.

Reference

Buccola, Brian, and Andreas Haida. "Obligatory irrelevance and the computation of ignorance inferences." Journal of Semantics 36.4 (2019):

583-616.