Stanford, Semantics & Linguistic Theory (SALT) 25,
May 15-17, 2015

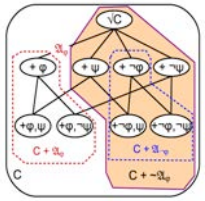
Bias in Commitment Space Semantics: Declarative Questions, Negated Questions, and Question Tags.

Manfred Krifka
krifka@rz.hu-berlin.de

References (selected) – **Büring**, D & C **Gunlogson**. 2000. Aren't positive and negative polar questions the same? *LSA Annual meeting*. – **Cattell**, R 1973. Negative transportation and tag questions. *Language* 49. – **Cohen**, A & M **Krifka** 2014. Superlative quantifiers and meta-speech acts. *Linguistics & Philosophy* 37. – **Farkas**, D F. & K B. **Bruce**. 2010. On reacting to assertions and polar questions. *Journal of Semantics* 27. – **Gunlogson**, C 2002. Declarative questions. *SALT* 12. – **Gunlogson**, C 2008. A question of commitment. *Belgian Journal of Linguistics* 22. – **Krifka**, M. 2013. Response particles as propositional anaphors. *SALT* 23. 1-18. – **Krifka**, M. t.a.. Negated polarity questions. In Lee, Ch e.a. (eds), *Contrastiveness and scalar implicature*. Springer, – **Ladd**, D R. 1981. A first look at the semantics and pragmatics of negative questions and tag questions. *CLS* 17. – **Lascarides**, A & N **Asher**. 2009. Agreement, disputes and commitments in dialogue. *Journal of Semantics* 26. – **Malamud**, S & T **Stephenson**. 2014. Three ways to avoid commitments: Declarative force modifiers in the conversational scoreboard. *Journal of Semantics*. – **Merin**, A & C **Bartels**. 1997. Decision-theoretic semantics for intonation. *Arbeitspapiere der SFB 340*. Stuttgart, Tübingen: **Reese**, B & N **Asher**. 2007. Prosody and interpretation of tag questions. *Sinn und Bedeutung* 11. – **Repp**, S 2013. Common ground management: Modal particles, illocutionary negation and VERUM. Gutzmann, D & HM Gärtner, (eds), *Beyond expressives -- Explorations in use-conditional meaning*. Brill. – **Romero**, M. 2006. Biased yes/no questions: The role of VERUM. *Sprache und Datenverarbeitung* 30. – **Roelofsen**, F & D **Farkas**. t.a. Polarity particle responses as a window onto the interpretation of questions and assertions. *Language*.

Work supported by *Bundesministerium für Bildung und Forschung* (Förderkennzeichen 01UG0711)
and *Deutsche Forschungsgemeinschaft* (SFB 632 Informationsstruktur)

Boolean Operations on Commitment Spaces



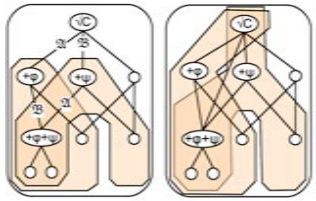
Denegation of speech acts

Searle 1969, Hare 1970, Vanderveken 1990, Cohen & Krifka 2014, Krifka t.a.

I don't promise to come.
$C + {\sim}\mathfrak{A} = C - [C + \mathfrak{A}]$
different from $C + \mathfrak{A}_{\neg\varphi}$

Meta speech acts

do not change the commitment state at the root,
restrict the way how conversation can proceed.



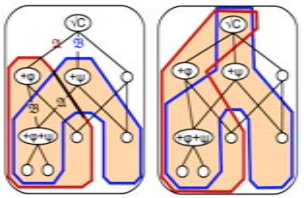
Conjunction of speech acts

Krifka 2001, Cohen & Krifka 2014

Eat the cheese! And drink the wine!
$C + [\mathfrak{A} \,\&\, \mathfrak{B}] = [C + \mathfrak{A}] \cap [C + \mathfrak{B}]$
results in a new commitment space
for regular and meta speech acts.

Disjunction of speech acts

#Eat the cheese! Or, drink the wine!
$C + [\mathfrak{A} \vee \mathfrak{B}] = [C + \mathfrak{A}] \cup [C + \mathfrak{B}]$
results in new commitment space for meta acts,
but not for regular speech acts (no root)

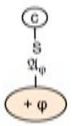


An Algebraic Framework for Illocutionary Acts

Cohen & Krifka 2014, Krifka t.a.

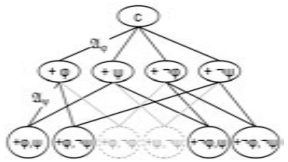
Commitment State c

Set of propositions φ shared by interlocutors.



Update of commitment states with speech act $\mathfrak{A}_\varphi$

$c +_S \mathfrak{A}_\varphi = c \cup \{\varphi\}$ (for short: $c +_S \varphi$)
where φ: commitment introduced by $\mathfrak{A}_\varphi$, actor: S

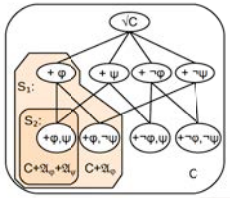


Pragmatic requirements on update

no redundancy: $\varphi \notin c$
no blatant contradiction: $\neg\varphi \notin c$, etc.

Commitment Space C

a set of commitment states C with $\cap C \in C$, $\cap C \neq \emptyset$
$\cap C$: the root of C, written $\sqrt{C}$



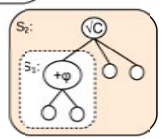
Update of commitment spaces with speech act $\mathfrak{A}_\varphi$

$C +_S \mathfrak{A}_\varphi = \{c \in C \mid [\sqrt{C} +_S \mathfrak{A}_\varphi] \subseteq c\}$

Rejection of a speech act by the other speaker

Implementation: "table" (Farkas & Bruice 2010), or sequence of discourse states (Krifka t.a.)

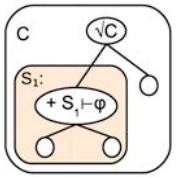
$[C +_{S_1} \mathfrak{A}_\varphi] +_{S_2}$ reject $= C - [C +_{S_1} \mathfrak{A}_\varphi]$



Assertions as truth commitments

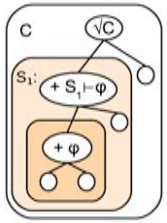
Brandom 1983, Alston 2001, ≠ Bach & Harnish 1979 in terms of intention to make believe

S_1 is committed to truth of φ: $S_1 \vdash \varphi$, a proposition
$c +_{S_1} ASS_{S_1}\varphi = c \cup S_1 \vdash \varphi = c + S_1 \vdash \varphi$
$C +_{S_1} ASS_{S_1}\varphi = \{c \in C \mid [\sqrt{C} \cup S_1 \vdash \varphi] \subseteq c\}$
$C +_{S_1} S_1 \vdash \varphi$, for short



Reaction: No protest, nodding, *mmh*

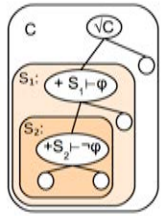
If S_1 is an authority, trustworthy person:
φ itself becomes part of the commitment space:
$C +_{S_1} S_1 \vdash \varphi + \varphi$
Cancellable: *Believe it or not, Ed won the race.*



Reaction: Agreeing response particle, e.g. *yes*

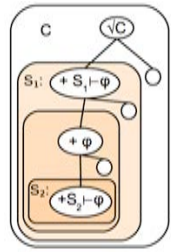
Krifka 2013, *yes* and *no* as n

S_1 picks up the proposition φ and asserts it
$C + S_1 \vdash \varphi + \varphi + S_2 \vdash \varphi$



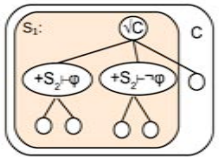
Reaction: Disagreeing response particle, e.g. *no*

S_2 picks up the proposition φ, asserts its negation:
$C + S_1 \vdash \varphi + S_2 \vdash \neg\varphi$,
a conflict, not a contradiction,
update with φ impossible, as $\varphi \in c$ and $S \vdash \neg\varphi \in c$ cannot both hold.



Questions as meta speech acts

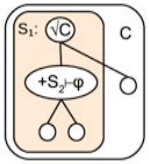
S_1, to S_2: *Did Ed win the race (or not)?*
S_1 restricts development to assertions by S_2 of $\{\varphi, \neg\varphi\}$
$C +_{S_1} QU(\{\varphi,\neg\varphi\}) = \{\surd C\} \cup \{c \in C \mid \exists p \in \{\varphi,\neg\varphi\}[\surd C + S_2 \vdash p \subseteq c]\}$
S_2 can choose either option with *yes*, *no*,
or reject the move, e.g. *Don't know.*

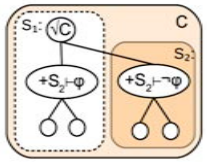


Biased questions offer one option ("monopolar")

Gunlogson 2002; question highlighting in Farkas & Roelofson 2015

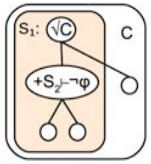
S_1: *Ed won the race?* (declarative question)
$C +_{S_1} QU(\varphi) = \{\surd C\} \cup \{c \in C \mid \surd C + S_2 \vdash \varphi \subseteq c\}$
S_2: response *yes* straightforward, *no* after rejection
Prosody (e.g. incredulity) signals certain expectations by S_1.





Biased questions with propositional negation

S_1: *Did Ed not win the race?*
$C +_{S_1} QU(\{\neg\varphi\}) = \{\surd C\} \cup \{c \in C \mid \surd C + S_2 \vdash \neg p \subseteq c\}$
Bias, as negation is superfluous for bipolar reading.



Biased questions also with regular questions

Büring & Gunlogson 2000

[S_1 thinks it is warm outside, S_2 comes with a coat.]
S_1: *Is it cold / not warm / #warm outside? / It is cold outside?*
Rule: Ask confirmation for that φ that provides more information (is less expected).

Question Tags

Cattell 1973, Huddleston & Pullum 2002, Reese & Asher 2007; Malamud & Stephenson 2014 in terms of projected commitments of speaker.

Matching question tags

Ed won the race, did he? / Ed didn't win the race, didn't he? (L%)
Proposition put forward as a potential view of addressee, seeking for confirmation.

Reverse question tags

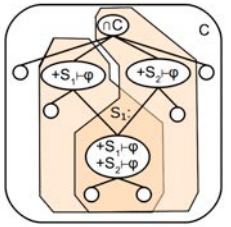
Ed won the race, didn't he? */ Ed didn't win the race, did he?* (L% / H%)
Proposition put forward by speaker, checking for possible objection by addressee.

Matching tag questions

Analysed as speech act conjunction of assertion and question

iMalamud & Stephenson: added to hearer's projected commitments, no relation to question

$C +_{S_1} [ASS(\varphi) \,\&\, QU(\{\varphi\})]$
$= [C +_{S_1} ASS(\varphi)] \cap [C +_{S_1} QU(\{\varphi\})]$
$= \{c \in C \mid \surd C \cup S_1 \vdash \varphi \subseteq c\} \cap [\{\surd C\} \cup \{c \in C \mid \surd C \cup S_2 \vdash \varphi \subseteq c\}]$



Overall effect:

– φ is presented by S_1 as a commitment of S_2
– S_1 commits to φ as well (if S_2 does not reject the last move)

Perhaps also for rising declaratives: blend of assertion + question

Gunlogson 2008

High negation in questions

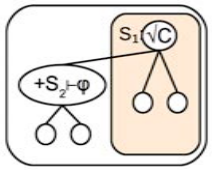
Ladd 1980, Han & Romero 2002, van Rooij & Šafárová 2006, Romero 2006, Repp 2011, Krifka t.a.

Isn't it warm outside?

Analysis as denegation of question-implied assertion

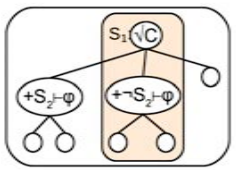
Krifka t.a.

Regular question: $QU_{S_1}(\{p\})$: S_1 asks S_2 to $ASS_{S_2}(p)$, i.e. for $S_2 \vdash \varphi$
High negation: S_1 asks S_2 to refrain from this, $\sim ASS_{S_2}(\varphi)$
as a consequence, S_2 cannot later commit to φ, $S_2 \vdash \varphi$
(except if evidence changes)



Alternative analysis: Adding non-commitment

S_1 asks S_2 to commit to the proposition $\neg S_2 \vdash \varphi$,
also excluding commitments to $S_2 \vdash \varphi$.



High negation with conflicting and neutral evidence

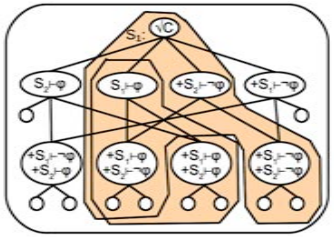
Büring & Gunlogson 2000

S_1: *Isn't it warm outside?*
$S_2 \vdash \neg\varphi$ pragmatically entails $\neg S_2 \vdash \varphi$, hence weaker than *Is it not warm outside?*
Leaves open answer *I don't know* without requiring rejection,
May be pragmatically advantageous as it does not come with the imposition
that the addressee knows the answer.

Reverse tag qestions

Analysed as speech act disjunction of assertion and question

$C +_{S_1} [ASS(\varphi) \vee QU(\{\neg\varphi\})]$
$= [C +_{S_1} ASS(\varphi)] \cup [C +_{S_1} QU(\{\neg\varphi\})]$
$= \{c \in C \mid \surd C \cup S_1 \vdash \varphi \subseteq c\}$
$\quad \cup \{\surd C\} \cup \{c \in C \mid \surd C \cup S_2 \vdash \neg\varphi \subseteq c\}$
cf. use of disjunction *oder* in German question tags.



Overall effect:

– excludes that $S_2 \vdash \varphi$ and $S_1 \vdash \neg\varphi$,
if S_2 commits to φ, S_1 commits to φ
– If S_2 commits to $\neg\varphi$, then S_1 has no commitment.
S_1 can either commit to φ, to $\neg\varphi$, or do nothing at all (depends on further responses).

Difference to simple assertion:

If S_2 commits to $\neg\varphi$, no conflict arises, as S_1 is then not committed to φ

Negative Tag questions also as high negation question

$\{c \in C \mid \surd \cup S_1 \vdash \varphi \subseteq c\} \cup \{\surd C\} \cup \{c \in C \mid \surd C \cup \neg S_2 \vdash \varphi \subseteq c\}$
if S_2 commits to φ, S_1 commits to φ; if S_2 does not commit, S_1 has no commitment.

Prosody L% / H%

Signals certainty of S_1 whether S_2 will follow the main (assertive) part

Merin & Bartels 1997
Reese & Asher 2007