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

Manfred Krifka
krifka@rz.hu-berlin.de


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

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 Aφ
C + Aφ = C U {φ} (for short: C +φ)
where φ: commitment introduced by Aφ, actor: S

Pragmatic requirements on update
no redundancy: φ ⊂ C
no blatant contradiction: ¬φ ∈ C, etc.

Commitment Space C
a set of commitment states C with nC ∈ C, nC ≠ ⊃ nC: the root of C, written √C

Update of commitment states with speech act Aφ
C + Aφ = {φ ∈ C} [ VC + Aφ ⊂ C]

Rejection of a speech act by the other speaker
Implementation: ”slub” (Farkas & Krifka 2010), as sequence of discourse states (Krifka t.a.)
[C + Aφ + Bφ, reject = C = [C + Aφ]

Boolean Operations on Commitment Spaces

Denegation of speech acts

I don’t promise to come.
C + ¬A = C — [C + A]
different from C + A where A

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 + [A & B] = [C + A] ∩ [C + B] results in a new commitment space for regular and meta speech acts.

Disjunction of speech acts

Yes/no questions: The role of VERUM.

#Eat the cheese! Or, drink the wine!
C + [A ∨ B] = [C + A] ∪ [C + B] results in new commitment space for meta acts, but not for regular speech acts (no root)

Assertions as truth commitments


S1 is committed to truth of φ: S1 i→ φ, a proposition
C + S1 i→ φ = C ⊃ S1 i→ φ
C + S1 i→ φ = {c ∈ C | V C ⊃ S1 i→ φ ⊂ C}
C + S1 i→ φ, for short

Reaction: No protest, nodding, mmh

If S1 is an authority, trustworthy person:
φ itself becomes part of the commitment space:
C + S1 i→ φ + φ
Cancellative: Believe it or not, Ed won the race.

Reaction: Agreeing response particle, e.g. yes

Krifka 2013, yes and no as n
S1 picks up the proposition φ and asserts it
C + S1 i→ φ + φ + S1 i→ φ

Reaction: Disagreeing response particle, e.g. no

S2 picks up the proposition φ, asserts its negation:
C + S1 i→ φ + S1 i→ ¬φ,
a conflict, not a contradiction, update with φ impossible, as φ ∈ C and S1 i→ ¬φ ∈ C cannot both hold.

Cohen & Krifka 2014, Krifka t.a.
Questions as meta speech acts

S₁, to S₂: Did Ed win the race (or not)?
S₁ restricts development to assertions by S₂ of \{φ, ¬φ\}
C +s₁, QU(φ) = (VC) ∪ \{c ∈ C | ∃p ∈ (φ, ¬φ)(Vc + S₂p ⊆ c)\}
S₂ can choose either option with yes, no, or reject the move, e.g., Don’t know.

Biased questions offer one option (“monopolar”)
Gäuling 2002; question highlighting in Farkas & Reuland 2015
S₁: Ed won the race? (declarative question)
C +s₁, QU(φ) = (VC) ∪ \{c ∈ C | √C + S₂p ⊆ c\}
S₂: response straightforward, no after rejection
Prosody (e.g., incredulity) signals certain expectations by S₁.

Biased questions with propositional negation
S₁: Did Ed not win the race?
C +s₁, QU(¬φ) = (VC) ∪ \{c ∈ C | √C + S₂p ⊆ c\}
Bias, as negation is superfluous for bipolar reading.

Biased questions also with regular questions
Büring & Gäuling 2000
[S₁ thinks it is warm outside, S₂ comes with a coat.]
S₁: Is it cold / not warm / #warm outside? / It is cold outside?
Rule: Ask confirmation for that φ that provides more information (is less expected).

High negation in questions
Isn’t it warm outside?

Analysis as denegation of question-implied assertion
Krifka t.a.
Regular question: QU₁({p}): S₁ asks S₂ to ASS₁(φ), i.e., for S₂ ↑φ
High negation: S₁ asks S₂ to refrain from this, ¬ASS₁(φ) as a consequence, S₂ cannot later commit to φ, S₂ ↑φ
(except if evidence changes).

Alternative analysis: Adding non-commitment
S₁ asks S₂ to commit to the proposition ¬S₂ ↑φ, also excluding commitments to S₂ ↑φ.
High negation with conflicting and neutral evidence
Büring & Gäuling 2000
S₁: Isn’t it warm outside?
S₂ ↑φ pragmatically entails ¬S₂ ↑φ, 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.

Question Tags

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
(Malamud & Stephenson: added to hearer’s projected commitments, no relation to question)
C +s₁, [ASS(φ) & QU(φ)]
= [C +s₁, ASS(φ)] ∩ [C +s₁, QU(¬φ)]

Overall effect:
– φ is presented by S₁ as a commitment of S₂
– S₁ commits to φ as well (if S₂ does not reject the last move)
Perhaps also for rising declaratives: blend of assertion + question
Gäuling 2008

Reverse tag questions
Analysed as speech act disjunction of assertion and question
C +s₁, [ASS(φ) V QU(¬φ)]
= [C +s₁, ASS(φ)] ∪ [C +s₁, QU(¬φ)]

Overall effect:
– excludes that S₂ ↑φ and S₁ ↑¬φ,
If S₁ commits to φ, S₂ commits to φ
– If S₁ commits to ¬φ, then S₁ has no commitment.
S₁ can either commit to φ, to ¬φ, or do nothing at all (depends on further responses).

Difference to simple assertion:
If S₁ commits to ¬φ, no conflict arises, as S₁ is then not committed to φ

Negative Tag questions also as high negation question
{ce C | v S₁ ↑¬φ ⊆ c} ∪ {c∈C | vφ ⊆ ¬S₂ ↑φ ⊆ c}
if S₂ commits to φ, S₁ commits to φ; if S₁ does not commit, S₁ has no commitment.

Prosody L% / H%
Signals certainty of S₁ whether S₂ will follow the main (assertive) part
Repp & Asher 2007