



# Challenging Speech Acts

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Arik Cohen

Manfred Krifka



## A classical joke:



The Trotzky Telegram:



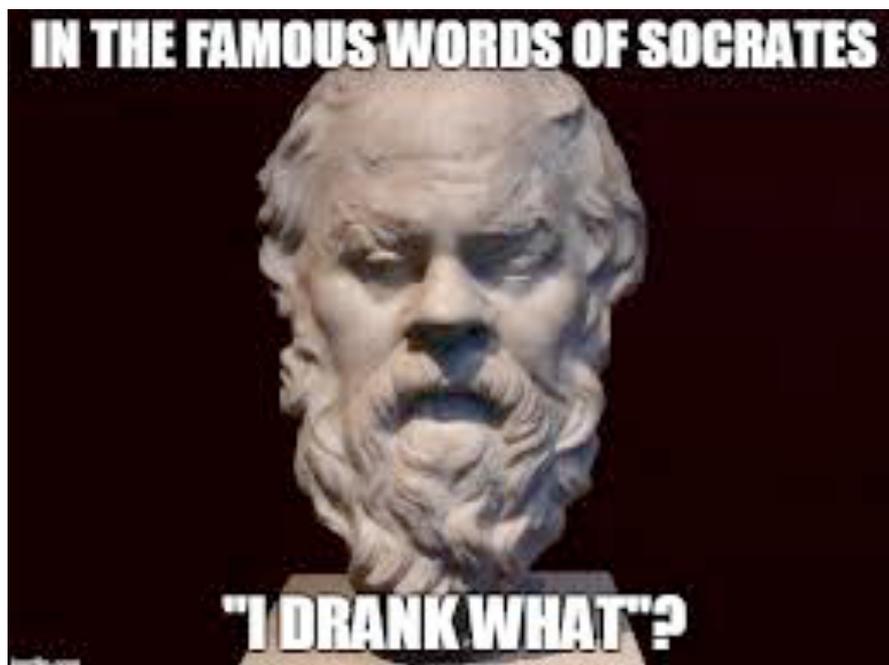
- ◆ “Joseph Stalin, The Kremlin, Moscow.  
*I was wrong? You are the true heir of Lenin? I should apologize?*”  
cf. Arthur Asa Berger, The Genius of the Jewish Joke, 1997

Prosody matters:

Féry 2017:

$[(I)_\phi \text{ (was WRONG.)}_\phi \text{ (and STALIN)}_\phi \text{ (was RIGHT.)}_\phi]_i \quad [(I)_\phi \text{ (should APOLOGIZE)}_\phi]_i$   
 $L^*H_\phi \quad L^*H_\phi H_i \quad L^*H_\phi \quad L^*H_\phi H_i \quad L^*H_\phi \quad L^*H_\phi H_i$

## A Classical Reaction:



## Challenges to speech acts



- ◆ Incredulity questions, cf. Cohen 2007
- ◆ Examples:
  - 1) A: *Donald will become president.*  
B: *DONALD will become president?! / Donald will become PRESIDENT?!  
DONALD will become PRESIDENT?! Are you sure?*
  - 2) A: *Will Donald become president?*  
B: *Will DONALD become PRESIDENT?! What a stupid question!*
  - 3) A: *If only Donald became president!*  
B: *If only Donald became PRESIDENT?! Are you crazy?*
  - 4) A: *Idiot!* B: *IDIOT?! Don't call me that!*
  - 5) Patient: *Ouch!* Dentist: *Ouch?! You are anesthetized, this can't hurt you!*
- ◆ Observations:
  - Speaker B expresses incredulity or indignation about the previous contribution
  - Invites explanation of justification by the first speaker, A – hence, a challenge
  - The antecedent contribution can be of any speech act type (assertion, question, optative, curse, interjection, ...)
  - Prosodic contour, with L\* (low focus accent) and H% (high boundary tone), expanded pitch range

## Challenges beyond speech acts



### ◆ Examples:

6) A goes to the farmers market. It is February. One stand offers strawberries.

A, to seller: *Strawberries in WINTER?!*

### ◆ Observe:

- Same prosodic marking: focus L\*, boundary H%, expanded pitch
- No preceding speech act; reference to some phenomenon given in the situation.
- Speaker expresses incredulity or indignation about this phenomenon
- Speaker expresses interest in clarification about the phenomenon

## Related cases: Contradictions



### ◆ Examples

7) A: *My fate is sealed. I am diagnosed with elephantiasis.*

B: *Elephantiasis isn't incurable!*

L\*+H                    L\*    L\*H%

Cf. Liberman, Mark & Ivan Sag. 1975,

Annotation: Ladd, D. Robert. 1996.

Contradiction contour onset as L\*+H+!H: Bartels, Christine. 1999. [2013].

Variety of possible realizations:

Hedberg, Nancy, e.a. 2003.

### ◆ How contradictions work:

- Current conversation or situation can be seen as entailing a proposition  $\varphi$
- Speaker rejects  $\varphi$ , typically by an assertion of the negation of  $\varphi$
- Focal accent on new part (negation, verum focus, etc.)

### ◆ Challenges $\neq$ Contradictions:

- Contradictions refer to an antecedent proposition and negates it
- Challenge refers to antecedent speech act or situational given phenomenon and questions it

## Related cases: Exclamatives



### ◆ Examples

- 8) A: *Donald will become president.*  
B: *Donald will become president!! Incredible!*
- 9) *Stawberries in winter!! Incredible!*  
*How fast this car is!!*

### ◆ How exclamatives work:

- Speaker expresses astonishment, surprise about a speech act, a proposition, a degree  
(Rett 2012)

### ◆ Challenges ≠ Exclamatives:

- Exclamatives do not question the antecedent
- Challenges express incredulity, give addressee a chance to revoke

## Related cases: Echo questions



### ◆ Examples:

- 10) A: *The symphony requires four ondes martenots.*  
B: *The symphony requires WHAT?* wh echo question  
B: *The symphony requires four ONDES MARTENOTS?* non wh echo question
- 11) A: *When will he bring his pet tarantula to the vet?*  
B: *When will he bring WHAT to the vet?* wh echo, antecedent: wh question

### ◆ How echo questions work:

- echo questions refer to preceding speech act, which can be of any type
- in echo questions one constituent is replaced by wh-element with focal accent, in non-wh echo question one constituent is realized as focus
- Speaker indicates that antecedent was not properly understood w.r.t. wh / focus constituent, asks to repeat the act to achieve better understanding.

### ◆ Echo questions ≠ Challenges

- Echo questions are requests for clarification, speech act was not understood  
Challenges: speech acts were understood, expression of indignation / disbelief
- Challenges have an expanded pitch range (Hirschberg & Ward 1992, Repp & Rosin 2015)
- Challenges are often accompanied by facial gestures (frowning) (Crespo-Sendra e.a. 2013)
- Echos but not challenges allow for focus/wh on parts of words: (Cohen 2007):  
*This is called WHAT-jacency?*

### ◆ Challenges are sometimes considered a type of echos (Artstein 2002, Poschmann 2015)



## Explaining challenges

- ◆ Challenges are not requests for information or confirmation, like questions or rising declaratives.
- ◆ Challenges express **incredulity** or **indignation** about a phenomenon in the situation, i.e. the phenomenon does not fit the **epistemic** or **deontic** background of the speaker (Cohen 2007)

11) A: *Donald will become president.* B: *DONALD will become PRESIDENT?!*

12) *Strawberries in WINTER?!*

- ◆ In case the phenomenon is an antecedent speech act, speaker signals resistance against accepting that speech act.
- ◆ Resistance can be understood as a challenge: The addressee can withdraw that speech act, or stick by it, but then some motivation for sticking by it is expected.



## The Commitment Space Model (CSM)

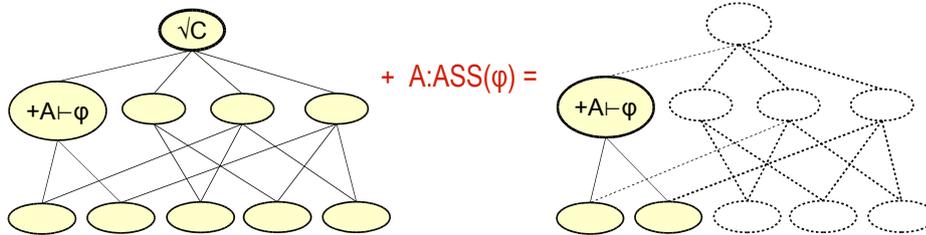
- cf. Cohen & Krifka 2014, Krifka 2015
- ◆ Commitments and other attitudes:
  - $A \vdash \varphi$  'A is committed to truth of  $\varphi$ ' assertions
  - $A \top \varphi$  'A prefers  $\varphi$  over alternatives' optatives
  - $A \perp \varphi$  'A is impressed by  $\varphi$ ' exclamatives
- ◆ Commitment States  $c$ :
  - Sets of ostensibly shared propositions
  - Non-contradictory, i.e.  $\cap c \neq \emptyset$
  - Adding of commitments, e.g.  $c + A \vdash \varphi = c \cup \{A \vdash \varphi\}$
- ◆ Commitment Spaces  $C$ :
  - Sets of commitment states, to model possible continuations
  - $\sqrt{C} = \cap C$ : the root, the propositions actually shared
  - $C + A: \mathcal{A} = C'$ , update of  $C$  with speech act  $\mathcal{A}$ , actor  $A$ , to output  $C'$
- ◆ Commitment Space Developments,  $CD$ :
  - Sequences of pairs of  $\langle \text{Actor}, \text{Commitment Space} \rangle$ ,
  - $\langle \dots, \langle *, C \rangle \rangle + A: \mathcal{A} = \langle \dots, \langle *, C \rangle, \langle A, C + \mathcal{A} \rangle \rangle$ ,  
update of last commitment space with speech act  $\mathcal{A}$ , actor  $A$

# Assertion in Commitment Spaces



◆ Assertion by A that  $\varphi$  at input commitment space C:

- A:  $[\text{ActP} \cdot [\text{CommitP} \vdash [\text{IP } \textit{Donald is president}]]]$
- $C + A: \text{ASS}(\varphi) = C + A \vdash \varphi = \{c \in C \mid A \vdash \varphi \in c\}$
- Restricts C to those commitment states that contain the proposition  $A \vdash \varphi$



◆ Assertion by A that  $\varphi$  at input commitment space development:

- $\langle \dots, \langle *, C \rangle \rangle + A: \text{ASS}(\varphi) = \langle \dots, \langle *, C \rangle, \langle A, C + A \vdash \varphi \rangle \rangle = CD$
- Conversational implicature introduces  $\varphi$  itself in a second step:  
 $CD + \varphi = \langle \dots, \langle *, C \rangle, \langle A, C + A \vdash \varphi \rangle, \langle A, [C + A \vdash \varphi] + \varphi \rangle \rangle = CD'$

# Reactions to Assertions; Rejection



◆  $CD'$  after assertion:  $\langle \dots, \langle *, C \rangle, \langle A, C + A \vdash \varphi \rangle, \langle A, [C + A \vdash \varphi] + \varphi \rangle \rangle$

◆ B: *Okay. / Aha. / ∅*

- acceptance, no change

◆ B: *Yes.*

- confirmation, picks up TP proposition in A:  $[\text{ActP} \cdot [\text{ComP} \vdash [\text{TP } \dots]]]$ , B asserts  $\varphi$ :
- $CD' + B: \text{ASS}(\varphi) = \langle \dots, \langle *, C \rangle, \langle A, [C + A \vdash \varphi] + \varphi \rangle, \langle B, [[C + A \vdash \varphi] + \varphi] + B \vdash \varphi \rangle \rangle$

◆ B: *No.* denial, picks up  $\varphi$ , B asserts  $\neg\varphi$ , requires rejection  $\mathfrak{R}$  for consistency:

- Rejection goes back to previous state:  
 $\langle \dots, \langle S, C \rangle, \langle S', C' \rangle \rangle + \mathfrak{R} = \langle \dots, \langle S, C \rangle, \langle S', C' \rangle, \langle S, C \rangle \rangle$
- $CD' + B: \text{No.} = CD' + \mathfrak{R} + B: \text{ASS}(\neg\varphi) =$   
 $\langle \dots, \langle *, C \rangle, \langle A, C + A \vdash \varphi \rangle, \langle A, [C + A \vdash \varphi] + \varphi \rangle, \langle A, C + A \vdash \varphi \rangle, \langle B, [C + A \vdash \varphi] + B \vdash \neg\varphi \rangle \rangle$
- Results in a commitment space with  $A \vdash \varphi$  and  $B \vdash \neg\varphi$ ,  
A and B make contradictory commitments, but commitment state not contradictory.
- without  $\mathfrak{R}$ , commitment states would contain  $\varphi$  and  $B \vdash \neg\varphi$ , incoherent c.state;  
in general:  $\mathfrak{R}$  is used to maintain consistency.

◆ Rejection has a similar function as negotiating table in Farkas & Bruce 2010

# Questions in the CSM

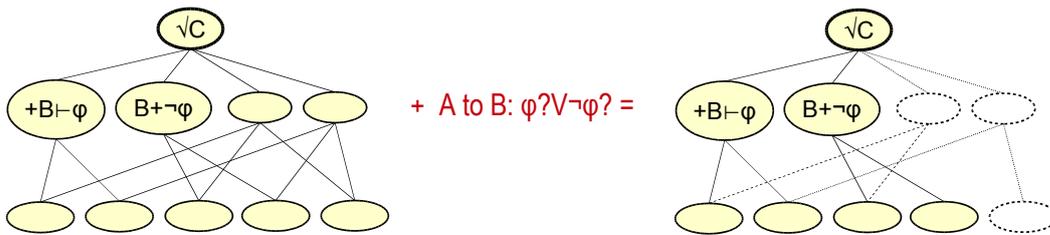


◆ Example: bipolar question

13) Is Donald president or not?

◆ Questions restrict the possible continuations, not the root – **meta speech act**

- $C + A \text{ to } B: \varphi? \vee \neg\varphi? = \{\sqrt{C}\} \cup C+B\vdash\varphi \cup C+B\vdash\neg\varphi$
- Restricts possible continuations to commitments by addressee B to either  $\varphi$  or  $\neg\varphi$



# Reactions to questions



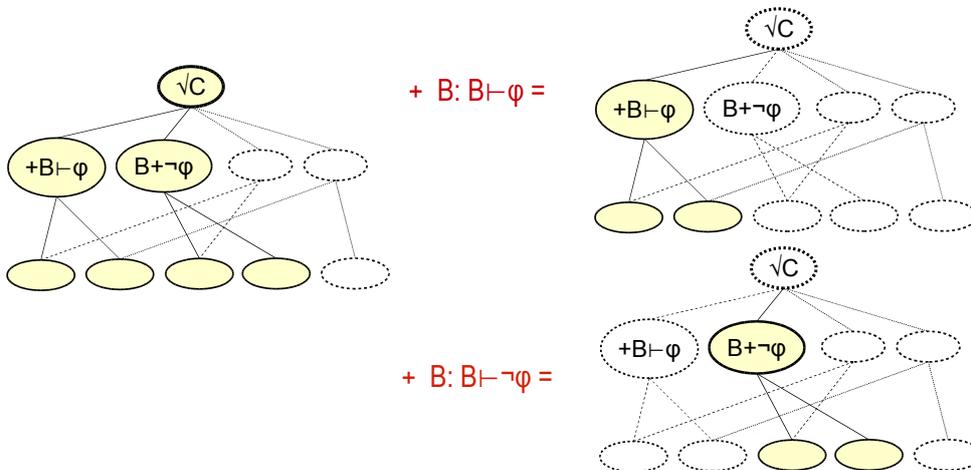
◆ Reactions to bipolar question:

• B: *Yes, he is.*

CD + B:  $ASS(\varphi) = \langle \dots, \langle *, C \rangle, \langle A, \{\sqrt{C}\} \cup C+B\vdash\varphi \cup C+B\vdash\neg\varphi \rangle, \langle B, C+B\vdash\varphi \rangle \rangle$

• B: *No, he isn't.*

CD + B:  $ASS(\neg\varphi) = \langle \dots, \langle *, C \rangle, \langle A, \{\sqrt{C}\} \cup C+B\vdash\varphi \cup C+B\vdash\neg\varphi \rangle, \langle B, C+B\vdash\neg\varphi \rangle \rangle$



• CD + R + B: *I don't know* requires rejection for consistency

$= \langle \dots, \langle *, C \rangle, \langle A, \{\sqrt{C}\} \cup C+B\vdash\varphi \cup C+B\vdash\neg\varphi \rangle, \langle *, C \rangle, \langle B, C+B:\neg K\varphi \rangle \rangle$

## Challenges vs. Denials and Questions



- ◆ Denials vs. challenges:
  - A: *Donald will become president.* B: *No.*  
B: *Donald will become PRESIDENT?!*
  - Denials reject an asserted proposition by asserting its negation
  - Challenges do not negate an assertion, and the antecedent speech act can be of various types.
- ◆ Questions vs. challenges:
  - A: *Will Donald become president?*  
A: *Donald will become PRESIDENT?!*
  - Questions, including raising declaratives, indicate informational need how the common ground **should** develop, i.e. they relate to the **possible continuations** of the **commitment space**
  - Challenges express an irritation about how the common ground **has** developed, i.e. they relate to the **past commitment space development**

## Modeling Challenges by Speech Act Sets



- ◆ A simpleminded analysis: A:  $\mathfrak{A}$  followed by B: CHALLENGE(A:  $\mathfrak{A}$ )
- ◆ Problems:
  - focus and questioning nature of challenges is not covered.
  - incredulity just postulated.
- ◆ Authier (1993), Dayal (1996), Artstein (2002) on echo questions:
  - Echo questions denote sets of alternatives (like regular wh questions)
  - *You gave WHAT to George? / You gave FLOWERS to George?*  
{‘Adr gave flowers to George’, ‘Adr gave chocolate to George’, ...}
- ◆ Generalization to challenges:
  - Echo / Challenges denote **sets of alternative speech acts**
  - We call such sets **secondary speech act**.

## Creating speech act alternatives



- ◆ Speech act alternatives created by focus, modeled by structured meanings
- 15) DONALD<sub>F</sub> will become president?!
- ◆ Projection of focus (cf. Krifka 1992)
  - ASSERT(will(become(P(⟨λx[x], d⟩))))
  - ⟨λx[ASSERT(will(become(P(x)))], d⟩
- ◆ Different from focus in answers to questions (v. Stechow 1990, Rooth 1992)
- 16) A: Who will become president?  
B: DONALD<sub>F</sub> will become president.
- ASSERT(⟨λx[will(become(P(x)))], d⟩)
- Focus bound by illocutionary operator (cf. Jacobs 1984, Krifka 1992), corresponding to question (for CS approach: Krifka 2015, Kamali & Krifka i.prep)
- ◆ WH in challenges and echoes:
- 17) WHO<sub>F</sub> will become president?!
- ⟨λx[ASSERT(will(become(P(x)))], {d}⟩
- wh in echo / challenges refer to singleton alternative set that is given by preceding act (cf. Authier 1993, Beck & Reis 2017)
- resulting in similar meaning to non-wh-case

## Working through an example



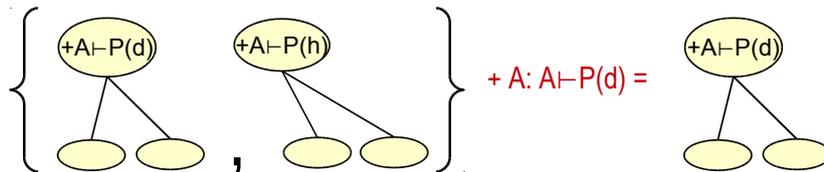
- ◆ Antecedent act:  
⟨..., ⟨\*, C⟩⟩ + A: *Donald is president.* = ⟨..., ⟨\*, C⟩, ⟨A, C+A-P(d)⟩⟩ = CD
- ◆ Echo or Challenge: B: *DONALD is president?!*
  - refers anaphorically to the salient adjacent speech act A-P(d)
  - focus on DONALD indicates alternatives represented by structured meaning: ⟨λx[A-P(x)], d⟩
  - structured speech act is uttered by B, leading to update of ⟨..., ⟨\*, C⟩⟩ to ⟨..., ⟨\*, C⟩, ⟨B, ⟨λx[C+A-P(x)], d⟩⟩⟩
  - interpreted as: A should proceed by choosing one C out of {C+A-P(x)|x∈ALT(d)}
- ◆ Restriction for updating a CD with a structured update ST:
  - ⟨..., ⟨\*, ST⟩⟩ requires that there is no C in ... such that C ∈ {ST(x) | x∈ALT}
  - Reason: If C were already established, there is no reason to provide this choice
  - this may require a reject operation  $\Re$
- ◆ Illustration by example:
  - CD +  $\Re$  = ⟨..., ⟨\*, C⟩, ⟨A, C+A-P(d)⟩, ⟨\*, C⟩⟩, = CD'
  - Application of speech act set to CD' results in a commitment space set:  
CD' + B: ⟨λx[A-P(x)], d⟩  
= ⟨..., ⟨\*, C⟩, ⟨A, C+A-P(d)⟩, ⟨\*, C⟩, ⟨B, ⟨λx[C+A-P(x)], d⟩⟩⟩



## Working through an example

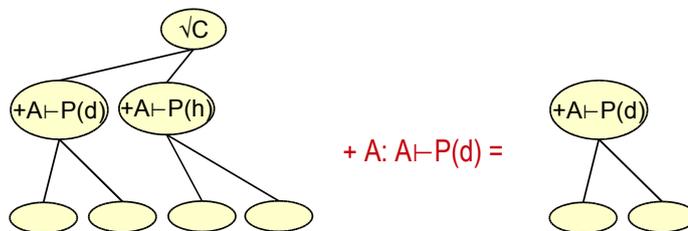
### ◆ Resulting commitment space development:

- $\langle \dots, \langle *, C \rangle, \langle A, C+A \neg P(d) \rangle, \langle *, C \rangle, \langle B, \langle \lambda x[C+A \neg P(x)], d \rangle \rangle \rangle = CD''$   
B signals a set of options, A should choose one
- $CD'' + A: A \neg P(d) =$   
 $\langle \dots, \langle *, C \rangle, \langle A, C+A \neg P(d) \rangle, \langle *, C \rangle, \langle B, \langle \lambda x[C+A \neg P(x)], d \rangle \rangle, \langle A, C+A \neg P(d) \rangle \rangle$



### ◆ Contrast with answer to bipolar question whether P(d) or P(h):

- $\langle \dots, \langle *, C \rangle, \langle B, \{C\} + C+A \neg P(d)+A \neg P(h) \rangle \rangle = CD$   
 $CD + A: A \neg P(d) = \langle \dots, \langle *, C \rangle, \langle B, \{C\} + C+A \neg P(d)+A \neg P(h) \rangle, \langle A, C+A \neg P(d) \rangle \rangle$



## Generalization to other cases

### ◆ Questions:

- $\langle \dots, \langle *, C \rangle \rangle + A, \text{ to B: Will Donald be president?}$   
 $= \langle \dots, \langle *, C \rangle \rangle + A: B \neg P(d)$   
 $= \langle \dots, \langle *, C \rangle, \langle A, \{ \sqrt{C} \} \cup C+B \neg P(d) \rangle \rangle = CD$
- $CD + \mathfrak{R} + B: \text{Will DONALD be president?}$   
 $= \langle \dots, \langle *, C \rangle, \langle A, \{ \sqrt{C} \} \cup C+B \neg P(d) \rangle, \langle *, C \rangle, \langle B, \langle \lambda x[\{C\} \cup C \neg P(x)], d \rangle \rangle \rangle$

### ◆ Optatives:

- $\langle \dots, \langle *, C \rangle \rangle + A: \text{If only Donald became president!}$   
 $= \langle \dots, \langle *, C \rangle \rangle + A: B \top P(d)$   
 $= \langle \dots, \langle *, C \rangle, \langle A, C+B \top P(d) \rangle \rangle = CD$
- $CD + \mathfrak{R} + B: \text{If only DONALD became president?!}$   
 $= \langle \dots, \langle *, C \rangle, \langle A, C+B \top P(d) \rangle, \langle *, C \rangle, \langle B, \langle \lambda x[C+B \top P(x)], d \rangle \rangle \rangle$

### ◆ Situations (sketch):

- Common ground changes by situational evidence  $\phi$  assumed to be shared:  $C + \phi = \{c \in C \mid \phi \in c\}$
- Take  $\psi(t) = \text{'They are selling strawberries in the current situation } s \text{ \& } s \text{ is a situation in } t \text{'}$   
 $\langle \dots, \langle *, C \rangle \rangle + \psi(\text{winter}) = \langle \dots, \langle *, C \rangle, C+\psi(\text{winter}) \rangle = CD$ ,  
i.e.  $\psi(\text{winter})$  is treated as becoming part of the common ground
- $CD + \mathfrak{R} + A: \text{They sell strawberries in WINTER?!}$   
 $= \langle \dots, \langle *, C \rangle, C+\psi(\text{winter}), \langle *, C \rangle, \langle A, \langle \lambda x[C+B \neg \psi(x)], \text{winter} \rangle \rangle \rangle$
- A resists accepting non-linguistic, visual evidence for  $\phi(\text{winter})$ , requests confirmation from addressee, implicating that an alternative would be more likely.



## The challenge of challenges

- ◆ Where we are:
  - B rejects a previous speech act by A
  - B offers A a choice of speech acts, including A's original speech act, as continuations
- ◆ Challenge:
  - Why is this understood as a challenge?



## Intensionality

- ◆ Challenges are intensional:
  - Assume John is the winner of Best Manager Award
- 18) a. *JOHN will get the job?!*  
b. *#THE WINNER OF THE BEST MANAGER AWARD will get the job?!*
- ◆ Focus normally is taken to induce extensional alternatives:
- 19) Who will get promoted?
  - a. *JOHN will get promoted.*
  - b. *THE WINNER OF THE BEST MANAGER AWARD will get promoted.*
- ◆ Since challenges are intensional, it makes sense to suggest that they trigger a set of alternative worlds.
- ◆ These are determined by the modal base:
  - Doxastic—belief worlds
  - Deontic—normative worlds



## A closer look

19) A: *Donald will become president.*

B: *Donald will become PRESIDENT?!*

- ◆ B resists what (s)he just heard.
- ◆ B is asking: In which of the worlds compatible with my belief / norms does A assert that Donald will become president?
- ◆ This is a rhetorical question, since B presumably knows what (s)he considers permissible.
- ◆ A rhetorical question implies a negative answer (Sadock 1974)
- ◆ In none of B's belief / normative worlds does A assert that Donald will become president
- ◆ Hence, this assertion is incredible / outrageous



## World semantic value

- ◆ How is this modeled?
- ◆ The alternatives generated by focus can be formalized by the focus semantic value,  $[[\Phi]]^F$  (Rooth 1985; 1992), but this cannot generate the required intensional interpretation.
- ◆ Cohen (2009) proposes an additional type of semantic value: world semantic value,  $[[\Phi]]^w$
- ◆  $[[\Phi]]^w$  is a set:  
each member of this set is the ordinary semantic value of  $\Phi$  in some world.
- ◆ Regular focus introduces focus semantic value,  
extended pitch range: world semantic value



## The denotation of speech acts

- ◆ We have treated speech acts as devices that add commitments to the world
- ◆ Hence speech acts are functions from world/time pairs to world/time pairs (cf. Szabolcsi 1982, Krifka 2014)



## The semantic values of speech acts

- ◆ The **ordinary** semantic value:
  - $\llbracket \text{ASSERT}(\textit{Donald will become President})(\langle w, t \rangle) \rrbracket^o$   
= the unique pair  $\langle w', t' \rangle$   
such that  $t'$  immediately follows  $t$   
and  $w'$  is just like  $w$  except that the speaker is committed to the truth of the proposition 'Donald will become President'
- ◆ The **world** semantic value  
is a set of the ordinary semantic values in different **worlds** in the modal base:
- ◆  $\llbracket \text{ASSERT}(\textit{Donald will become President})(\langle w, t \rangle) \rrbracket^w =$   
 $\left\{ \begin{array}{l} \llbracket \text{ASSERT}(\textit{Donald will become President})(\langle w_1, t \rangle) \rrbracket^o, \\ \llbracket \text{ASSERT}(\textit{Donald will become President})(\langle w_2, t \rangle) \rrbracket^o \\ \dots \end{array} \right\}$



## Alternative worlds

- ◆ Each of the worlds  $w_1, w_2, \dots$  is a world in B's belief / normative worlds.
- ◆ B is asking a question by presenting these alternatives:  
In which of these worlds does A assert that Donald will become President?
- ◆ This question is rhetorical,  
B thereby implies that in **none** of these worlds does A make this assertion.
- ◆ The fact that A did, after all, make the assertion,  
is therefore incredible / outrageous,  
depending on the modal base (epistemic / deontic).
- ◆ The time  $t$  for all alternatives is the same: the time of A's utterance.
- ◆ This explains the intuition that, at the time the speech act was made,  
B did not believe that it would be made.
- ◆ Of course, now that A **did** make the speech act,  
B has no choice but to believe this...



## The role of focus

- ◆ Focus indicates the alternative challenges, as usual:  
20) a. DONALD is going to become President?!  
b. Donald is going to become PRESIDENT?!
  - Both (a) and (b) mean that Donald's becoming President is incredible / outrageous.
  - But (a) and (b) indicate different challenges that are not made
    - (a) does not challenge the election of other people to President:  
in B's belief / normative worlds,  
other people may be asserted to become President.
    - (b) does not challenge giving other positions to Donald:  
in B's belief / normative worlds,  
Donald may be asserted to have other positions.
- ◆ In general:
  - A speech act  $\mathfrak{A}(\langle \alpha, \beta \rangle)$  is made with the propositional content  $\alpha(\beta)$ ,
  - and it is presupposed that other speech acts  
with the same illocutionary force  $\mathfrak{A}$  but an alternative propositional content  $\alpha(X)$   
could have been made.



## Putting it all together

- ◆ The speech act is represented as follows:
  - a.  $\langle \lambda x[\text{ASSERT}(x \text{ will become President})(\langle w, t \rangle)], \text{Donald} \rangle$
  - b.  $\langle \lambda x[\text{ASSERT}(\text{Donald will become } x)(\langle w, t \rangle)], \text{President} \rangle$
- ◆ And they are interpreted as follows:
  - a. The assertion that Donald will become President is not made in any of B's belief / normative worlds, but in each of these worlds, assertions of the form “X will become President” could be made.
  - b. The assertion that Donald will become President is not made in any of B's belief / normative worlds, but in each of these worlds, assertions of the form “Donald will become X” could be made.



## Wrapping up

- ◆ What we have achieved:
  - model for challenging speech acts in conversation
  - as secondary speech acts that address a surprising previous speech act or a surprising fact that enters the common ground
  - that captures the fact that challenges have a focus that creates alternatives and that challenges are requests to the addressee, just like questions
  - keeping apart regular use of focus and questions (commitment spaces) and challenging uses (commitment space developments)
  - deriving the challenging use in a non-stipulative way
- ◆ Natural extensions:
  - Echo questions: No challenge, but request for clarification
  - Other types of secondary speech acts:  
Haoze Li e.a., S&B 2017, Cantonese: [-ho](#),  
add to many other speech acts with the meaning:  
Speaker performs that act; asks addressee for supporting that act.

## References



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