A note on speech act recursion

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1 **The Performative Hypothesis**

2 Iterated questions

3 A constraint on speech act recursion

4 Declarative questions

5 Recap

Sentences and speech acts

- Speech acts are the minimal units of linguistic communication

  (1)   Sentences
        A: Is it raining?
        B: It's not (raining).

  (2)   Speech acts
        A asks whether it's raining
        B asserts that it's not raining

  cf. Searle (1969)

An old idea

(3)   The Performative Hypothesis (PH)
      Speech acts are part of literal meaning

cf. Stenius (1967); Ross (1970); Lakoff (1970); Gazdar (1979)

Implementing PH: performative prefixes

- Logical forms under PH contain <u>performative prefixes</u>

  (4) A: Is it raining?
  - (i) WHETHER is it t_{is} raining   *standard analysis*
  - (ii) <u>A ASK</u> WHETHER is it t_{is} raining   *PH-analysis*

      B: It is raining.
  - (i) It is raining   *standard analysis*
  - (ii) <u>B ASSERT</u> it is raining   *PH-analysis*

Syntactic generalizations

PH makes it possible to capture syntactic facts by clearly formulated generalizations

Generalization 1

- ASK selects $C_{[+aff]}$, other predicates select $C_{[-aff]}$

    (5)   a.   ... ASK $[_{CP}$ ... $T+C_{[+aff]}$ $[_{TP}$ ... t_T ... $]$ $]$
            b.   ... ASSERT $[_{CP}$ ...$C_{[-aff]}$ $[_{TP}$ ... T

cf. Katz and Postal (1964); Truckenbrodt (2006); Krifka (2020)

Generalization 2

- If X selects CP, X is lexically silent if and only if the edge of CP is lexically silent

(6) a. (i)   ... ASK [$_{CP}$ WHETHER is+C [$_{TP}$ it t_{is} raining]]
         (ii) *... ASK [$_{CP}$ whether is+C [$_{TP}$ it t_{is} raining]]
     b. (i)   *... wonder [$_{CP}$ WHETHER C [$_{TP}$ it is raining]]
         (ii) ... wonder [$_{CP}$ whether C [$_{TP}$ it is raining]]

(7) a. (i)   ... ASSERT [$_{CP}$ C [$_{TP}$ it is raining]]
         (ii) ... ASSERT [$_{CP}$ it C [$_{TP}$ t_{it} is raining]]
         (iii) *... ASSERT [$_{CP}$ that [$_{TP}$ it is raining]]
     b. (i)   *... believe [$_{CP}$ C [$_{TP}$ it is raining]]
         (ii) ... believe [$_{CP}$ it C [$_{TP}$ t_{it} is raining]]
         (iii) ... believe [$_{CP}$ that [$_{TP}$ it is raining]]

cf. Pesetsky and Torrego (2001)

Is speech act recursion possible?

Answer to be defended: **Yes!**

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Repetitive questions: observation

- B_1 is not asking whether B is married, but is asking whether A is asking whether B is married.

(8) A_1 Are you married?
     B_1 Am I married? $\rightarrow$ "repetitive question"
     A_2 Yes. That's what I asked.
     B_2 No. I'm single.

Repetitive questions: analysis

- Given PH it is straightforward to capture the intuitive meaning of repetitive questions

  (9) A_1 Are you married?
       A ASK [WHETHER are [you$_B$ t_{are} married]]

       B_1 Am I married?
       B ASK [WHETHER [A ASK [WHETHER am [I$_B$ t_{am} married]]]]

       A_2 Yes that's what I asked.

cf. Ross (1970); Lakoff (1970); Sadock (1974); Krifka (1995, 2001); Trinh and Truckenbrodt (2018); Trinh (2022)

Excursive questions: observation

- B_2 is asking which time x is such that A is asking B who smoked at the time x

  (10) A_1 Did John smoked?
       B_1 When? $\rightarrow$ "excursive question"
       A_2 Last night.
       B_2 No he didn't smoke last night.

  cf. Schmitt (2021)

Excursive questions: analysis

- Given PH it is straightforward to capture the intuitive meaning of excursive questions

  (11) B ASK [when$_x$ [A ASK [WHETHER did [John t_{did} smoke t_x]]]]

- Supporting evidence: island sensitivity

  (12) A$_1$ Did John meet the man who smoked?
        B$_1$ #When?
              Intended meaning: which time x is such that you are asking me whether John met the man who smoked at the time x

  cf. Trinh and Bassi (2022a,b)

Terminology

- Repetitive and excursive questions are **iterated questions**

  (13)   ... ASK [... ASK [...]]
      a.   B ASK [WHETHER [A ASK [WHETHER am [I_B t_{am} married]]]]
      b.   B ASK [when$_x$ [A ASK [who smoked t_x]]]

Interim summary

Assuming speech act recursion makes it straightforward to capture the intuitive meaning of iterated questions

Is speech act recursion constrained?

Answer to be defended: **Yes!**

A puzzle about repetitive questions

- A_2 is deviant under the intended reading

  (14) A_1 Are you married?
       B_1 Am I married?
       $A_2 \#$ Are you married?
            Intended meaning: are you asking whether I am asking
            whether you're married?
       B_2 Yes. Am I married?
            Intended meaning: I am asking whether you are asking
            whether I am married.
       A_3 Yes. That's what I asked.
       B_3 No. I'm single.

A puzzle about excursive questions

- A_2 is deviant under the intended reading

  (15) A_1 Did John smoke?
        B_1 When?
               Intended meaning: which time x is such that you are
               asking whether John smoked at time x?
        A_2#Where?
               Intended meaning: which place y is such that you are
               asking which time x is such that I am asking whether John
               smoked at time x at place y?
        B_2 At Mary's place.
        A_3 Last night.
        B_3 No. He didn't smoke last night at Mary's place. (But he
               did smoke last night at Sue's place.)

Generalization

Iterated questions cannot be iterated

SARC

- Speech act recursion is subject to the following constraint

  (16) Speech Act Recursion Constraint
        Recursion of speech acts is limited to **at most two** levels

  (17) a.   p-prefix ...
        b.   p-prefix ... p-prefix ...
        c. #p-prefix ... p-prefix ... p-prefix ...

Resolving the puzzle about repetitive questions

- The deviant readings require LF in (19) which violate SARC

  (18) A_1 Are you married?
        B_1 Am I married?
        A_2#Are you married?
              Intended meaning: are you asking whether I am asking
              whether you're married?

  (19) <u>A ASK</u> [WHETHER [<u>B ASK</u> [WHETHER [<u>A ASK</u> [WHETHER are [you$_B$ t_{are} married]]]]]]

Resolving the puzzle about excursive questions

- The deviant readings require LF in (21) which violate SARC

(20) A_1 Did John smoke?
B_1 When?
A_2 #Where?
Intended meaning: which place y is such that you are asking which time x is such that I am asking whether John smoked at time x at place y?
B_2 At Mary's place.
A_3 Last night.
B_3 No. He didn't smoke last night at Mary's place. (But he did smoke last night at Sue's place.)

(21)   <u>A ASK</u> [where$_y$ [<u>B ASK</u> [when$_x$ [<u>A ASK</u> [WHETHER did [John t_{did} smoke t_x t_y]]]]]]

Interim summary

Iteration of an iterated question is not possible, because it would require three levels of speech act recursion, which is ruled out by SARC

Does SARC explain facts beyond those just considered?

Answer to be defended: **Yes!**

Two kinds of polar questions

- Polar questions in English may or may not exhibit subject aux inversion

  (22) A_1 John is looking for a vegetarian restaurant.
       B_1 Is John vegetarian?
       A_2 He is not, but his wife is.

  (23) A_1 John is looking for a vegetarian restaurant.
       B_1 John is vegetarian? $\rightarrow$ "declarative questions"
       A_2 He is not, but his wife is.

Puzzle: declarative questions cannot be iterated

(24) A_1 John is looking for a vegetarian restaurant.
   B_1 Is John vegetarian?
   A_2 Is he vegetarian?
      Intended meaning: are you asking whether I am asking whether
      John is vegetarian?
   B_2 Yes, that's what I asked.
   A_3 No he's not, but his wife is.

(25) A_1 John is looking for a vegetarian restaurant.
   B_1 John is vegetarian?
   A_2 #He is vegetarian?
      Intended meaning: are you asking whether I am asking whether
      John is vegetarian?
   B_2 Yes, that's what I asked.
   A_3 No he's not, but his wife is.

Why does declarative word order prevent iteration?

Analysis of declarative questions

- An intuition underlying many analyses of declarative questions is that they ask whether the addressee is committed to the proposition expressed by the prejacent

  (26) A: John is looking for a vegetarian restaurant.
     B: John is vegetarian?
        ≈ 'are you saying John is vegetarian?'

- Given PH it is straightforward to generate an LF which captures this intuition

  (27) B ASK [WHETHER [A ASSERT [John is vegetarian]]]

- The embedded ASSERT results in declarative word order

cf. Gunlogson (2002, 2003); Trinh and Crnic (2011); Krifka (2017)

Resolving the puzzle about declarative questions

- Because declarative questions already contain two levels of speech acts, iterating them would result in a violation of SARC

  (28) A_1 John is looking for a vegetarian restaurant.
       B_1 John is vegetarian?
       A_2#He is vegetarian?
            Intended meaning: are you asking whether I am asking whether John is vegetarian?

  (29) <u>A ASK</u> [WHETHER [<u>B ASK</u> [WHETHER [<u>A ASSERT</u> [he is vegetarian]]]]]

- PH predicts the possibility of speech act recursion
- Speech act recursion is possible but constrained
- The constraint, SARC, seems to be syntactic

A problem

- A_2 is well-formed under the intended reading, contrary to what SARC predicts

  (30) A_1 Did John smoke?
       B_1 When?
       A_2 When?
           Intended meaning: are you asking whether I am asking
           which time x is such that you are asking whether John
           smoked at time x
       B_2 Yes, when?
       A_3 Yesterday.
       B_3 No, John didn't smoke yesterday.

- It seems that we have to distinguished between 'whether' and other wh-phrases

Other issues for future research

- the obligatory silence of peformative prefixes
- the semantic/pragmatic distinction between (31a) and (31b)

  (31) a.   S ASSERT it is raining
        b.   S ASSERT I$_S$ assert it is raining

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