Do we need Structured Question Meanings?

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Two Approaches to Questions

The Proposition Set Approach
(e.g., Hamblin 1958, 1973; Karttunen 1977; Groenendijk & Stokhof 1984, ...):
The meaning of a question is a set of propositions;
a congruent answer to the question identifies one of them.

[[Which novel did Mary read?]]
= { Mary read Ulysses, Mary read Moby-Dick, ... }

The Functional (= Structured Meaning, Categorial) Approach
(e.g., Ajdukiewicz 1928, Cohen 1929, Hull 1975, Tichy 1978,
Hausser & Zaefferer 1979, Stechow & Zimmermann 1984, ... Reich 2001):
The meaning of a question is an unsaturated proposition;
a congruent answer to the question saturates it.

[[Which novel did Mary read?]]

a. Mary read x_{novel}

b. $\lambda x \in$ novel[Mary read x]

c. ⟨λx[Mary read x], novel⟩
⟨Q-Function, Q-Restriction⟩

Relationship between the PS and SM approach

We can derive proposition set meanings from structured meanings:
$[[Q]]_{PS} = \{ [[Q]]_{SM}(y) \mid y \in DOM([[Q]]_{SM}) \}$

e.g. [[Which novel did Mary read?]]$_{PS}$
= [[Which novel did Mary read?]]$_{SM}$(y) |
y $\in$ DOM([[Which novel did Mary read?]]$_{SM}$) }
= { $\lambda x \in$ novel[Mary read x](y) | y $\in$ novel }

= { Mary read Ulysses, Mary read Moby-Dick, ... }

We cannot derive structured meanings from proposition set meanings
(at least if propositions are not expressions in a representation language)

Hence:
The PS approach is the null hypothesis;
adherents for the SM approach have to provide for arguments for it.

Question:
Are there linguistic phenomena
that cannot be handled by the PS approach,
but can be handled by the SM approach?

(A genuine problem of linguistic data structures!)

Aims of this talk

Krifka (2001),
"For a structured meaning account of questions and answers":
There are such phenomena,
hence we need an SM approach to questions.

(Also, an argument against the SM approach,
that it assigns different semantic types to questions,
can be refuted.)

Büring (2002), "Question-Answer-Congruence: Unstructured":
gives arguments that try to refute the arguments of Krifka (2001),
arguing that the PS approach to questions is sufficient.

Aims of this talk:
- Restate the arguments of Krifka (2001)
- Discuss the counterarguments of Büring (2002)
- Conclude that the PS approach to questions is insufficient,
  and that an SM approach is on the right track.

SM Approach: Simple constituent questions

We adopt the following implementation of the SM approach, for concreteness:

Treatment of simple constituent questions:

Syntax (wh-movement):

$[_{CP}\ [_{+Q}$ which novel$]_1\ [_{C'}\ [_{C0}$ did$]\ [_{IP}$ Mary read $t_1]\ ]\ ]$

Interpretation (wh-constituent expresses restriction of function):

$[[\ [_{CP}\ [_{+Q}$ which novel$]_1\ [_{C'}\ [_{C0}$ did$]\ [_{IP}$ Mary read $t_1]\ ]\ \ ]\ ]]$

$= \lambda x_1 \in [[\ [_{+Q}$ which novel$]]]\ [\ [[\ [_{C'}\ [_{C0}$ did$]\ [_{IP}$ Mary read $t_1]\ ]\ ]\ ]]\ ]$

$= \lambda x_1 \in$ novel [read(x_1)(mary)]]

Term answer:

[[Ulysses.]] = ulysses

Answer meaning applied to meaning of question:

$\lambda x_1 \in$ novel [read(x_1)(mary)]] (ulysses)

= read(ulysses)(mary)

SM Approach: Multiple constituent questions

Syntax:

$[_{CP}\ [_{+Q}$ which student$]_1\ [_{C'}\ [_{IP}\ t_1$ read [which novel$]_{+Q}$]]]

LF (simplified, to be modified later):

$[_{CP}\ [[_{+Q}$which student$]_1\ [_{+Q}$which novel$]_2]\ [_{C'}\ [_{IP}\ t_1$ read t_2]]]

Interpretation (simplified, to be modified later):

$[[[_{CP}[[_{+Q}$which student$]_1\ [_{+Q}$which novel$]_2]\ [_{C'}\ [_{IP}\ t_1$ read t_2]]]]]

$= \lambda\langle x_1,x_3\rangle \in [[[[_{+Q}$which student$]_1\ [_{+Q}$which novel$]_2]]]$

$[\ [[[_{C'}\ [_{IP}\ t_1$ read t_3]]]]\ ]$

$= \lambda\langle x_1,x_3\rangle \in \{\langle x,y\rangle \mid x \in$ student, $y \in$ novel$\}$ [read(x_3)(x_1)]

Answer:

[[Mary, Ulysses.]] = $\langle$mary, ulysses$\rangle$

Question meaning applied to answer meaning:

$\lambda\langle x_1,x_3\rangle \in \{\langle x,y\rangle \mid x \in$ student, $y \in$ novel$\}$ [read(x_3)(x_1)]($\langle$mary, ulysses$\rangle$)

= read(ulysses)(mary)

SM Approach: Polarity (yes/no) questions

One syntactic / semantic implementation:

Syntax: Truth polarity operator in C^0.

$[_{CP}\ [_{+Q}\ \text{did}]_1\ [_{C'}\ [_{C0}\ t_1\ ]\ [_{IP}\ \text{Mary read Ulysses}\ ]]]$

Interpretation:

$[[[_{CP}\ [_{+Q}\ \text{did}]_1\ [_{C'}\ [_{C0}\ t_1\ ]\ [_{IP}\ \text{Mary read Ulysses}\ ]]]\ ]]$

$= \lambda P_1 \in [[\ [_{+Q}\ \text{did}]_1\ ]]\ [\ [[\ [_{C'}\ [_{C0}\ t_1\ ]\ [_{IP}\ \text{Mary read Ulysses}\ ]]\ ]]\ ]$

$= \lambda P_1 \in \{\lambda p[p], \lambda p[\neg p]\}\ [\ P_1\ (\ [[\ [_{IP}\ \text{Mary read Ulysses}\ ]\ ]]\ )]$

$= \lambda P_1 \in \{\lambda p[p], \lambda p[\neg p]\}\ [P_1(\text{read(ulysses)(mary)})]$

Answer:

$[[\ \text{No.}\ ]] = \lambda p[\neg p]$

Question meaning applied to answer meaning:

$\lambda P_1 \in \{\lambda p[p], \lambda p[\neg p]\}\ [P_1(\text{read(ulysses)(mary)})]\ (\lambda p[\neg p])$

$= \lambda p[\neg p](\text{read(ulysses)(mary)})$

$= \neg\ \text{read(ulysses)(mary)}$

PS Approach: Various Subtypes

Varieties of the PS Approach:

Hamblin (1973), cf. also Alternative Semantics of Rooth (1985):
Meaning of question
= set of (not necessarily exhaustive) answers.

Karttunen (1977):
Meaning of question
= set of (not necessarily exhaustive) true answers.

Gronendijk & Stokhof (1984):
Meaning of question
= set of exhaustive answers (a partition of the set of possible worlds)

I adopt here the Hamblin-style semantics, for concreteness;
the points made apply to other theories as well.

PS Approach, Hamblin: Simple constituent questions

Syntax:

$[_{CP}$ $[_{+Q}$ which novel$]_1$ $[_{C'}$ $[_{C0}$ did] $[_{IP}$ Mary read t_1]]]

Input to interpretation: wh-movement can be undone.

$[_{IP}$ Mary read $[_{+Q}$ which novel]]

Interpretation, bottom-up:

[[which novel]] = {x | x∈ novel}

[[read]] = { read }

[[read which novel]]

= {X(Y) | X∈ [[read]] , Y∈ [[which novel]] }

= {read(x) | x∈ novel}

[[Mary]] = { mary }

[[Mary read which novel]]

= {X(Y)|X∈ [[read which novel]], , Y∈ [[Mary]] }

= {read(mary)(x) | x∈ novel}

Answer:

[[Mary read Ulysses]] = {read(mary)(ulysses)}

Answer condition satisfied:

PS-Approach, Hamblin: Multiple constituent questions

Syntax:

$[_{CP}$ $[_{+Q}$ which student$]_1$ $[_{C'}$ $[_{IP}$ t_1 read [which novel$]_{+Q}$]]]

Input to interpretation, wh-movement undone:

$[_{IP}$ which student read which novel]

Interpretation, bottom-up:

[[read which novel]] = {read(x) | x∈ novel}

[[which student]] = {y | y∈ student}

[[which student read which novel]]

= {X(Y)|X∈ [[read which novel]] , Y∈ [[Mary]] }

= {read(y)(x) | x∈ novel, y∈ student}

Answer:

[[Mary read Ulysses]] = {read(mary)(ulysses)}

Answer condition satisfied (provided that Mary is a student):

[[Mary read Ulysses]] ⊆ [[which student read which novel]]

PS Approach, Hamblin: Polarity questions

Syntax, input to interpretation:

$[_{C'} [_{C0}$ did] $[_{IP}$ Mary read Ulysses]]

Interpretation, bottom-up:

$[[$Mary read Ulysses$]]_A$ = {read(ulysses)(mary)}

$[[$did$]]_A$ = {λp[p], λp[¬p]}

$[[$did Mary read Ulysses$]]_A$

= {X(Y) | X∈ $[[$did$]]_A$, Y∈ $[[$Mary read Ulysses$]]_A$ }

= {read(ulysses)(mary), ¬read(ulysses)(mary)}

Three Cases for the SM approach

In Krifka (2001), I made three cases for added complexity:

Case 1: Polarity questions and alternative questions
Case 2: Multiple questions
Case 3: Focusation in answers to questions.

We concentrate here on Case 1 and Case 3.

Case 1: Polarity vs. Alternative questions

Simple polarity question:

Q: Did Mary read Ulysses?

A: Yes. / No. /

Yes, she did. / No, she didn't. / She read it. / She didn't read it.

Alternative polarity question:

Q: Did Mary read Ulysses, or didn't she (read Ulysses)?

Q: Did Mary read Ulysses or not?

A: *Yes. / *No. /

Yes, she did. / No, she didn't. / She read it. / She didn't read it.

Alternative polarity questions similar to alternative constituent questions:

Q: Did Mary read Ulysses or Moby-Dick?

(= What did Mary read, Ulysses or Moby-Dick?)

A: Ulysses. / Moby-Dick. / She read Ulysses. / She read Moby-Dick.

Case 1: Polarity/Alternative questions in SM Approach

Syntax and semantics of alternative constituent questions:

- Syntax: $[_{CP}$ _ $[_{C'}$ $[_{C0}$ did] $[_{IP}$ Mary read [Ulysses or Moby-Dick]$_{+Q}$]]]
- LF: $[_{CP}$ [Ulysses or Moby-Dick]$_1$ $[_{C'}$ $[_{C0}$ did] $[_{IP}$ Mary read t_1]]]
- Interpretation: $\lambda x_1 \in \{ulysses, moby\text{-}dick\}\ [read(x_1)(mary)]$
- Answer: Ulysses.
  $\lambda x_1 \in \{ulysses, moby\text{-}dick\}\ [read(x_1)(mary)](ulysses)$
  $= read(ulysses)(mary)$

Alternative polarity question:

- Syntax: $[_{CP}$ __ $[[_{C'}$ $[_{C0}$did] $[_{IP}$Mary read U.]] or $[_{C'}[_{C0}$didn't] $[_{IP}$she read U.]]]]
- LF: $[_{CP}$ $[[_{C'}$ $[_{C0}$did] $[_{IP}$Mary read U.]] or $[_{C'}[_{C0}$didn't] $[_{IP}$she read U.]]]$_1$ t_1]
- Interpretation: $\lambda p_1 \in \{read(ulysses)(mary), \neg read(ulysses)(mary)\}\ [p_1]$
- Answer: Mary read Ulysses.
  $\lambda p_1 \in \{read(ulysses)(mary), \neg read(ulysses)(mary)\}\ [p_1](read(ulysses)(mary))$
  $= read(ulysses)(mary)$

Contrast this with simple polarity question:

- Syntax: $[_{CP}$ $[_{+Q}$ did]$_1$ $[_{C'}$ $[_{C0}$ t_1] $[_{IP}$ Mary read Ulysses]]]
- Interpretation: $\lambda P_1 \in \{\lambda p[p], \lambda p[\neg p]\}\ [P_1(read(ulysses)(mary))]$
- Answer: Yes.
  $\lambda P_1 \in \{\lambda p[p], \lambda p[\neg p]\}\ [P_1(read(ulysses)(mary))](\lambda p[p])$
  $= \lambda p[p](read(ulysses)(mary))$

Case 1: Polarity/Alternative questions in PS approach

Alternative questions:

» Syntax: $[_{CP}$ _ $[_{C'}$ $[_{C0}$ did] $[_{IP}$ Mary read [Ulysses or Moby-Dick]$_{+Q}$]]]

» Input to Interpretation: $[_{IP}$ Mary read [Ulysses or Moby-Dick]$_{+Q}$]]

» Interpretation:
[[Ulysses or Moby-Dick]]
= {ulysses, moby-dick}

» [[Mary read [Ulysses or Moby-Dick]]]
= {read(ulysses)(mary), read(moby-dick)(mary)}

Alternative polarity question:

» Syntax: $[_{CP}$ $[_{C'}$ [did Mary read Ulysses] or [didn't she read Ulysses]]]

» Interpretation: {read(ulysses)(mary), ¬read(ulysses)(mary)}

Standard polarity question:

» Syntax: $[_{C'}$ $[_{C0}$ did] $[_{IP}$ Mary read Ulysses]]

» Interpretation: {read(ulysses)(mary), ¬read(ulysses)(mary)}

The PS approach doesn't offer obvious different meanings
for simple polarity questions and alternative polarity questions.

It also doesn't offer a semantic representation for yes and no.

Case 1: Büring's suggestion

Alternative polarity question meanings: duplex sets
[[Did Mary read Ulysses, or didn't she?]]
= {read(ulysses)(mary), ¬read(ulysses)(mary)}

Standard polarity questions: singleton sets
[[Did Mary read Ulysses?]]
= {read(ulysses)(mary)}

Answers yes/no:
Affirmation/Negation of the proposition in a singleton set.

General problem with this proposal:
It is against the spirit of the semantic theory of questions,
that the meaning of a question is the set of all answers.

Problems with treatment of embedded questions:

Karttunen (1977):
John knows that Q = 'John knows the true propositions of Q.'

But then:
John knows whether Mary read Ulysses
cannot be treated along these lines, if Mary didn't read Ulysses,
as whether Mary read Ulysses doesn't contain a true proposition.

Special interpretation rule is necessary:
John knows whether Q
'For all propositions p of Q,
if p, then John knows that p, and if ¬p, then John knows that ¬p.'

Case 3: Answer Focus

Question-answer congruence; cf. also Ingo Reich (2001).

Congruent question / answer pairs indicated by focus of the answer:

Q:	What did Mary read?	
A:	Mary read ULYSses$_F$.	Focus o.k.

A typology of wrong focus placements:

A′:	*MAry$_F$ read Ulysses.	Focus on wrong place.
A″:	*MAry$_F$ read ULYSses$_F$.	Overfocused; too many foci.

Q: Which student read which novel?

A:	MAry$_F$ read ULYSses$_F$.	Focus o.k. (except for list answer)
A′:	MAry$_F$ read ULYSses$_F$.	Underfocused; too few foci.

Q: What did Mary do?

A:	Mary [read ULYSses]$_F$.	Focus o.k.; focus projection
A″:	*Mary READ$_F$ Ulysses.	Underfocused; focus too narrow.

Q: What did Mary do with Ulysses?

A:	Mary READ$_F$ Ulysses.	Focus o.k.
A′:	*Mary [read ULYsses]$_F$.	Overfocused; focus too wide.

Q/A pairs in SM: Simple constituent questions

Focus in the SM approach (von Stechow 1981, 1990; Jacobs 1984):
Focus marking induces a partition between background and focus; the background applied to the focus yields the standard proposition.

Examples:
[[Mary read ULYSses$_F$.]] = ⟨λx[read(x)(mary)], ulysses⟩
[[MAry$_F$ read Ulysses.]] = ⟨λx[read(ulysses)], mary⟩

Conditions for congruent Q/A pairs:
Background condtion: Background of the answer = Question function
Focus condtition: Focus of the answer ∈ Question restriction

Examples:
[[Which novel did Mary read?]] = ⟨λx[read(x)(mary), novel⟩
o.k.: [[Mary read ULYSses$_F$.]], = ⟨λx[read(x)(mary)], ulysses⟩
identical backgrounds, ulysses ∈ novel
not ok: [[MAry$_F$ read Ulysses.]], = ⟨λx[read(ulysses)], mary⟩
Background condition violated.
not o.k: [[Mary read Exiles$_F$.]], = ⟨λx[read(x)(mary)], exiles⟩
Focus condition violated.

Cases of underfocusation and overfocusation are excluded:
[[Which student read which novel?]], = ⟨λxy[read(y)(x)], student×novel⟩
not o.k.: [[Mary read ULYSses$_F$.]], = ⟨λx[read(x)(mary)], ulysses⟩,
Background condition and focus condition violated
[[What did Mary do with Ulysses?]], = ⟨λR[R(ulysses)(mary)], transitive_activity⟩
not o.k.: [[Mary [read ULYSses$_F$.]], = ⟨λP[P(mary)], λx[read(ulysses)(x)]⟩

Q/A pairs in PS: Simple constituent questions

Optimally matched:

Proposition set theory of questions / Alternative Semantics to focus
cf. Rooth 1985, Rooth 1992, von Stechow 1990.

Alternative semantics to focus:

Two levels of interpretation: Meaning proper, Alternatives.

Focus marking introduces alternatives;

the meaning proper is an element of the set of alternatives.

Examples:

[[Mary read ULYSses$_F$.]] = read(ulysses)(mary)
[[Mary read ULYSses$_F$.]]$_A$ = {read(x)(mary) | x $\in$ ALT(ulysses)}

[[MAry$_F$ read Ulysses.]] = read(ulysses)(mary)
[[MAry$_F$ read Ulysses.]]$_A$ = {read(ulysses)(x) | x $\in$ ALT(mary)}

Conditions for congruent Q/A-pairs:

Question meaning corresponds to the alternatives of the answer.

Examples:

[[Which novel did Mary read?]] = {read(x)(mary) | x $\in$ novel}

o.k.: Mary read ULYSses$_F$,
as question meaning {read(x)(mary) | x$\in$ novel}
corresponds to alternatives: {read(x)(mary) | x$\in$ALT(ulysses)}

not: MAry$_F$ read Ulysses$_F$, as question meaning
does not correspond to alternatives: {read(ulysses)(x) | x$\in$ ALT(mary)}

Q/A pairs in PS: What does "correspond" mean?

Rooth (1992):

Alternatives = all possible denotations of the appropriate type

Q/A correspondence: [[Q]] $\subseteq$ [[A]]$_A$

Example where this is o.k.:

Q: Which novel did Mary read?
A: Mary read ULYSses$_F$.
as {read(x)(mary) | x $\in$ novel} $\subseteq$ {read(x)(mary) | x $\in$ D_e}

Q: Which novel did Mary read?
*A: MAry$_F$ read Ulysses.
as {read(x)(mary) | x $\in$ novel} $\not\subseteq$ {read(ulysses)(x) | x $\in$ D_e}

Example where this is not o.k:

Q: Which novel did Mary read?
*A: Mary read EXiles$_F$. (recall that's a play!)
but: [[Mary read EXiles$_F$.]]$_A$ = {read(x)(mary) | x $\in$ D_e}
{read(x)(mary) | x $\in$ novel} $\subseteq$ {read(x)(mary) | x $\in$ D_e}

Q/A pairs in PS: Coherence Requirement

Proposal:

Focus alternatives are pragmatically restricted;
they are typically proper subsets of all possible denotations.

Q: Which novel did Mary read?
$\{read(x)(mary) \mid x \in novel\}$, or $\{read(x)(mary) \mid x \in C \cap novel\}$

A: Mary read ULYSses$_F$.
$\{read(x)(mary) \mid x \in ALT(ulysses)\}$

Coherence requirement:
$\{read(x)(mary) \mid x \in C \cap novel\} = \{read(x)(mary) \mid x \in ALT(ulysses)\}$;
where this set needs do have at least 2 members.

A: *MAry$_F$ read Ulysses.
$\{read(ulysses)(x) \mid x \in ALT(mary)\}$
Intersection with question meaning contains just one member,
the proposition read(ulysses)(mary)

In general:

A question meaning [[Q]] and a set of answer alternatives $[[A]]_A$
form a potentially coherent pair iff $\# [[Q]] \cap [[A]]_A \geq 2$.

Q/A pairs in PS: Coherence requirement

Coherence requirement, schematically: Propositions

Kai read Ulysses	Kai read Moby-Dick	Kai read Dr. Faust	Kai read Exiles
Mary read Ulysses	Mary read Moby-Dick	Mary read Dr. Faust	Mary read Exiles
Bill read Ulysses	Bill read Moby-Dick	Bill read Dr. Faust	Bill read Exiles
Sue read Ulysses	Sue read Moby-Dick	Sue read Dr. Faust	Sue read Exiles

Q/A pairs in PS: Coherence requirement

Coherence requirement, schematically: Propositions

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Sue read Ulysses	Sue read Moby-Dick	Sue read Dr. Faust	Sue read Exiles

Which novel did Mary read?

Q/A pairs in PS: Coherence requirement

Coherence requirement, schematically: Propositions

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Bill read Ulysses	Bill read Moby-Dick	Bill read Dr. Faust	Bill read Exiles
Sue read Ulysses	Sue read Moby-Dick	Sue read Dr. Faust	Sue read Exiles

Which novel did Mary read?

Mary read ULYSses$_F$.

Q/A pairs in PS: Coherence requirement

Coherence requirement, schematically: Propositions

Kai read Ulysses	Kai read Moby-Dick	Kai read Dr. Faust	Kai read Exiles
Mary read Ulysses	Mary read Moby-Dick	Mary read Dr. Faust	Mary read Exiles
Bill read Ulysses	Bill read Moby-Dick	Bill read Dr. Faust	Bill read Exiles
Sue read Ulysses	Sue read Moby-Dick	Sue read Dr. Faust	Sue read Exiles

Which novel did Mary read?

*A: MARy_F read Ulysses.

Q/A pairs in PS: Coherence and underfocused answers

A problem of the coherence requirement (and other versions to spell out coherence in the PS/Alternative Semantics framework):

Q: [[Which student read which novel?]],
= {read(y)(x) | x ∈ student, y ∈ novel}

A: [[MARy_F read ULYSses_F $]]_A$,
= {read(y)(x) | x ∈ ALT(mary), y ∈ ALT(ulysses)}

*A: [[MARy_F read Ulysses $]]_A$,
= {R(ulysses)(x) | x ∈ ALT(mary)}

The answer is unfelicitous (underfocusation),
but satisfies the coherence requirement, as it is possible that:
{read(y)(x) | x ∈ ALT(mary), y ∈ ALT(ulysses)} ∩
{R(ulysses)(x) | x ∈ ALT(mary)} ≥ 2

Q/A pairs in PS: Coherence and underfocused answers

Kai read Ulysses	Kai read Moby-Dick	Kai read Dr. Faust	Kai read Exiles
Mary read Ulysses	Mary read Moby-Dick	Mary read Dr. Faust	Mary read Exiles
Bill read Ulysses	Bill read Moby-Dick	Bill read Dr. Faust	Bill read Exiles
Sue read Ulysses	Sue read Moby-Dick	Sue read Dr. Faust	Sue read Exiles

Which student read which novel?
(assuming Sue is no student)

Q/A pairs in PS: Coherence and underfocused answers

Kai read Ulysses	Kai read Moby-Dick	Kai read Dr. Faust	Kai read Exiles
Mary read Ulysses	Mary read Moby-Dick	Mary read Dr. Faust	Mary read Exiles
Bill read Ulysses	Bill read Moby-Dick	Bill read Dr. Faust	Bill read Exiles
Sue read Ulysses	Sue read Moby-Dick	Sue read Dr. Faust	Sue read Exiles

Which student read which novel?
(assuming Sue is no student)

MARy$_F$ read ULYSses$_F$.

Q/A pairs in PS: Coherence and underfocused answers

Kai read Ulysses	Kai read Moby-Dick	Kai read Dr. Faust	Kai read Exiles
Mary read Ulysses	Mary read Moby-Dick	Mary read Dr. Faust	Mary read Exiles
Bill read Ulysses	Bill read Moby-Dick	Bill read Dr. Faust	Bill read Exiles
Sue read Ulysses	Sue read Moby-Dick	Sue read Dr. Faust	Sue read Exiles

Which student read which novel?
(assuming Sue is no student)

MARy_F read ULYSses_F.

MARy_F read Ulysses.

Q/A pairs in PS: Coherence and underfocused answers

Underfocused answer with focus that is too narrow:

Q: [[What did Mary do?]], = {P(mary) | P ∈ activity}

A: [[Mary READ_F Ulysses. $]]_A$, = {R(ulysses)(mary) | R ∈ ALT(read)}

The Q/A pair is unfelicitous (underfocusation),
but satisfies the coherence requirement, as it is possible that:
{P(mary) | P ∈ activity} ∩ {R(ulysses)(mary) | R ∈ ALT(read)} ≥ 2

Similar problem: Overfocused answers.

Q/A pairs in PS: Büring's first reply

Büring suggests to stick with Rooth's congruence condition

A is a congruent answer to Q iff:

a. [[Q]] $\subseteq$ [[A]]$_A$

b. There is no lesser focussing of A that satisfies (a)
(and, of course, [[A]] $\in$ [[Q]], to avoide the Exiles-problem).

Example 1:

Q: [[Which novel did Mary read?]], = {read(x)(mary) | x$\in$novel}

A: [[Mary read ULYSses$_F$.]]$_A$, = {read(x)(mary) | x$\in$D$_e$}

*A: [[MAry$_F$ read ULYSses$_F$.]]$_A$, = {read(y)(x) | x,y$\in$D$_e$},

infelicitous as fewer foci are possible.

What does less focussing mean?

Example 1 suggests: As **few** foci as possible.

Q/A pairs in PS: Büring's first reply

Example 2:

Q: [[What did Mary do with Ulysses?]], = {R(ulysses)(mary) | R$\in$ transitive activities}

A: [[Mary READ$_F$ Ulysses.]]$_A$, = {R(ulysses)(mary) | R$\in$ D$_{eet}$}

*A: [[Mary [read ULYSses]$_F$]]$_A$, = {P(mary) | P $\in$ D$_{et}$}

infelicitous as a smaller focus is possible.

Example 2 suggests:

less focussing can also mean **as small a focus as possible**.

Example 3:

Q: [[What did Mary do with which novel?]],

= {R(x)(mary) | R$\in$transitive activities, x$\in$novel}

A: [[Mary READ$_F$ ULYSses$_F$.]]$_A$, = {R(x)(mary) | R$\in$D$_{eet}$, x$\in$D$_e$}

*A: [[Mary [read ULYSses]$_F$.]]$_A$, = {P(mary) | P$\in$D$_{et}$}

Hence: Reduction of **number** of foci
should be more important than reduction of **size** of foci.

Example 4:

Q: [[What did Mary do?]], = {P(mary) | P $\in$ activity}

A: [[Mary [read ULYSses]$_F$.]], = {P(mary) | P$\in$D$_{et}$}

*A: [[Mary READ$_F$ ULYSses$_F$.]], = {R(x)(mary) | R$\in$D$_{eet}$, x$\in$D$_e$}

Notice that if R, x are unrestricted, the last answer satisfies the first congruence condition, [[Q]] $\subseteq$ [[A]]$_A$

Hence reduction of the **size** of foci

Q/A pairs in PS: Büring's second reply: An appeal to Schwarzschild

Preference of lesser focusing
is reminiscent of Schwarzschild's theory of deaccenting

Schwarzschild 1999, "Givenness, AvoidF and other constraints on the placement of accent"

Schwarzschild's theory in a nutshell:
Selkirk (1984, 1995): Recursive F-marking assignment.
-- F-marking on argument licenses F-marking on head.
-- F-marking on head licenses F-marking on phrase.
Givenness: If a constituent is not F-marked, it must be given.
Avoid F: F-mark as little as possible.

Treatment of Example 3:
Q: What did Mary do with which novel?
A: Mary READ_F ULYSses_F.
*A: Mary [read_F $\text{ULYSses}_F]_F$
Now the second answer has more F-marking,
which should be avoided;
good prediction.

Q/A pairs in Schwarzschild's theory

Schwarzschild: F-marking can be explained solely by reference to givenness.
Explanation of focus in answers to questions:
Example: Q: Who did John's mother praise? A: She praised HIM_F.
F-marking on him is allowed, even though it is given, and even required. Why?
Givenness is not violated, under the definition of Schwarzschild:
An utterance β is given iff it has a salient antecent α, and
and if β is an entity, β and α corefer,
or modulo $\exists$-type shifting, α entails the existential-F-closure of β.

$\exists$-type shifting of antecedent question of example: $\exists x[\text{praise}(x)(\text{mother}(\text{john}))]$, = $\exists Q$

Meaning of she praised HIM_F is given:
$\exists$F-closure: $\exists \underline{X}[\text{praise}(\underline{X})(\text{mother}(\text{john}))]$, entailed by $\exists Q$

Meaning of praised HIM_F is given:
$\exists$F-closure: $\exists y \exists \underline{X}[\text{praise}(\underline{X})(y)]$, entailed by $\exists Q$.

Meaning of HIM_F is given, as it has an antecedent.
F-marking on HIM_F cannot be avoided, else:
as the meaning of she praised him, praise(john)(mother(john)),
would otherwise not be entailed by $\exists Q$.

Induced F-marking praised_F HIM_F must be avoided, following Avoid F.
Consequently, F-marking [praised_F HIM_F] is not possible.
Also, F-marking SHE_F praised HIM_F is ruled out by Avoid F.

Q/A pairs in Schwarzschild's Theory: Problems

Example: polarity question or clausal alternative question.
Q: Did it rain? / Did it rain or not?
$\exists$Q: rain $\vee$ $\neg$rain (a tautology).

A: [It RAINed]$_F$. / *A: It rained.

But F-marking is illicit in Schwarzschild's theory,
as it can be avoided:
Meaning of it rained: rain; this is entailed by $\exists$Q.

Schwarzschild discusses an apparently similar problem
with Did John leave?,
which he analyzes, following Bäuerle 1979,
as restricted wh-question Who left, John?.
The $\exists$-closure of this question is the proposition that someone left,
which does not entail the unfocused John left,
but the F-closure of JOHN$_F$ left.
This way out does not work for polarity questions like Did it rain?

Q/A pairs in Schwarzschild's theory: Problems

Problem (as above):
No differentiation between multiple foci and broad focus.

Example:
Q: What did Mary do?
Existential closure: $\exists$Q: $\exists$P[P(mary)]

A: She [read$_F$ ULYSses$_F$]$_F$,
F-closure $\exists$P[P(mary)] entailed by $\exists$Q

*A: She READ$_F$ ULYSses$_F$,
F-closure $\exists$R$\exists$x[R(x)(mary)] entailed by $\exists$Q,
if x, R, P range over D_e, D_{et}, D_{eet}.

Wrong prediction:
The second answer is preferred
because it shows fewer f-marking.

Conclusion

The structured meaning theory of questions
provides a more complex representation of questions;
this greater complexity has to be justified.

We have seen that it is justified on at least two counts,
in spite of criticism on previous arguments:

-- It provides for a way to distinguish the meanings
of polarity questions and certain alternative questions:
Did Mary read Ulysses?
Did Mary read Ulysses or not?

-- It prevents the problem of over- or underfocused answers
in a straightforward way.

Conclusion:
The greater complexity of the SM approach to questions
may well be necessary.