

THE SEMANTICS OF QUESTIONS: Scope and Quantification

I. The Domain of Study

- **Questions can be identified on the basis of form.**
 - There is much cross-linguistic variation in form.
 - Questions are of various types: wh/constituent Q's, yes-no/polar Q's.
 - Each type can be a root/direct Q or an embedded/indirect Q.

- 1a. [wh phrase_i [...t_i...]] + Intonation
1b. [(Q-morpheme) [...wh/indef phrase...]]
1c. [(Q-morpheme) [...]]

- 2a. Where is my book?
b. Who read what?
c. Is Mary here?
- 3a. She knows where my book is.
b. I know who read what.
c. She will know whether Mary is here.

- **Questions can be identified on the basis of content.**
 - Access to the meaning of Q's is indirect.
 - Intuitions about appropriate answers tell us about the content of a question.
- **Questions can be identified on the basis of use.**
 - Speech Act of Questioning – S questions H about p iff
 - i. S does not know the truth about p.
 - ii. S wants to know the truth about p.
 - iii. S believes H can supply the information about p that S wants.

- **Interrogative structures that are not used to question:**

- 4a. Is the Pope Catholic? *rhetorical*
b. Who doesn't like to have fun? *rhetorical*
c. Isn't that nice? *assertion*
d. Could you pass the salt? *request*
- 5a. He said WHAT? I couldn't hear you. *echo*
b. He said WHAT? I don't believe you. *incredulity*

- **Semantic theories of questions take the interrogative form used for the speech act of questioning as the canonical case.**

II. A Semantics for Questions

- *Answers can be direct or indirect, full or short, partial or complete.*

6a. Where is Sue? *Direct Answer: Full and Short*
 b. Sue is in the house.
 c. In the house.

7a. Who is coming to the party? *Partial vs. Complete Direct Answer*
 b. Well, Sue is coming. (I don't know about Bill or John).
 c. Sue is coming. (Bill and John aren't).

8a. Who is coming to the party? *Indirect Answer*
 b. Well, I know Sue had it marked on her calendar.
 c. Well, some of the invitees are out of town \Rightarrow Not everyone will come.

- *The Syntax/Semantics Map (Hamblin/Karttunen semantics with GB Syntax)*

9a. What/Which book did Bill buy?
 b. (Bill bought) Da Vinci Code.

Set of books

10a. $\lambda p \exists x [\text{object/book}(x) \ \& \ p = \text{bought}(\text{Bill}, x)]$
 b. {Bill bought DVC, Bill bought AD}



11. **CP** $\lambda P \exists x [\text{ob/bk}(x) \wedge P(x)] (\lambda x_i [p = \text{bought}(\text{Bill}, x_i)])$

Functional Application

$\exists x [\text{bk}(x) \wedge \lambda x_i [p = \text{bought}(\text{Bill}, x_i)](x)]$

λ -conversion

$\exists x [\text{bk}(x) \wedge [p = \text{bought}(\text{Bill}, x)]]$

λ -conversion

$\lambda p \exists x [\text{bk}(x) \wedge p = \text{bought}(\text{Bill}, x)]$

Abstraction over p

Spec $\lambda P \exists x [\text{ob/bk}(x) \wedge P(x)]$

C' $\lambda q [p = q](\text{bought}(\text{Bill}, x_i))$

Functional Appl

$p = \text{bought}(\text{Bill}, x_i)$

λ -conversion

C⁰_{+wh} $\lambda q [p = q]$

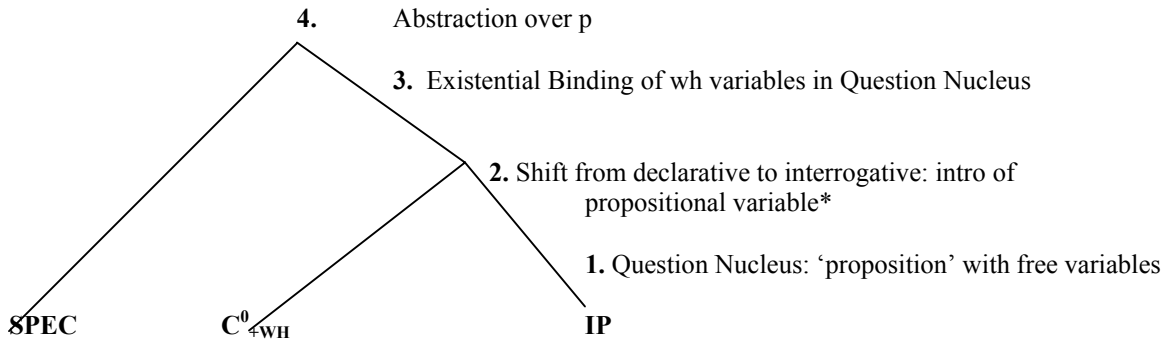
IP $\text{bought}(\text{Bill}, x_i)$

What/which book_i

Bill buy_i

- *Three parts to the semantics of questions:*
 - A. Question Nucleus (IP denotation)
 - B. Type Shift (C' denotation)
 - C. Quantificational Binding (CP denotation)

- **The Key Steps**



2'. Denotation of C⁰ for yes/no questions. $C^0 = \lambda q [p=q \vee p=\neg q]$

- **The question-answer relation (to be further elaborated):**

- A complete Ans to Q is the conjunction of the true propositions in Q.
- A partial Ans is a proposition entailed by (but not identical to) the complete answer.
- An indirect answer is a proposition which (conversationally) implicates the direct answer or a proposition that “brings us closer” to the direct answer.

- **The existential presupposition of wh questions:**

- 12a. What did Bill buy? *Speaker may have \exists presupposition*
 b. Nothing. *Hearer may deny it*
- 13a. What is it that Bill bought? *\exists presupposition part of common ground*
 b. #Nothing. *Cannot be denied*

- **Alternatives to Covert Movement: (Baker (1970), Cooper (1983), Kamp (1981)/Heim (1982), Reinhart (1997))**

- 14a. Which student read which book?
 b. $[Q_{ij} \text{ which student}_i [t_i \text{ read which book}_j]]$
- 15a. $\lambda p \exists x y [\text{student}(x) \ \& \ p = \text{read}(x, y) \ \& \ \text{book}(y)]$ Unselective Binding
 b. $\lambda p \exists x \exists f [\text{student}(x) \ \& \ p = \text{read}(x, f(\text{book}))]$ Choice Functions
 c. Hamblin/Karttunen set derived via Cooper Storage

- **Multiple Wh Questions**

- 16a. Which student bought which book?
 b. Bill bought DVC, Sue bought AD.
- 17a. $\lambda p \exists x \exists y [\text{student}(x) \ \& \ \text{book}(y) \ \& \ p = \text{bought}(x,y)]$
 b. {Bill bought DVC, Bill bought AD, Sue bought DVC, Sue bought AD}
 c. $[_{CP} \text{ Which student}_i [_{IP} t_i \text{ bought which book}]] \quad \mathbf{LF} \Rightarrow$
 $[_{CP} \text{ which book}_j \text{ Which student}_i [_{IP} t_i \text{ bought } t_j]]$

- *Constraints on questions:*

- 18a. *What did you meet the man who wrote?
- b. What is such that you met the man who wrote it?

Syntactic

- 19a. *How did who go?
- c. *Did Mary do what?

*Semantic or
Syntactic?*