Interrogatives worksheet

Chris Potts, Ling 230b: Advanced semantics and pragmatics, Fall 2022

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1 Example calculations

- $W = \{w_1, w_2, w_3, w_4\}$

- $[\![\textbf{person}]\!] = \begin{bmatrix} w_1 \mapsto \{a, b\} \\ w_2 \mapsto \{a\} \\ w_3 \mapsto \{a\} \\ w_4 \mapsto \{b\} \end{bmatrix}$ $[\![\textbf{left}]\!] = \begin{bmatrix} w_1 \mapsto \{a\} \\ w_2 \mapsto \{a, b\} \\ w_3 \mapsto \{b\} \\ w_4 \mapsto \{a\} \end{bmatrix}$ $[\![\textbf{met}]\!] = \begin{bmatrix} w_1 \mapsto \{\langle a, a \rangle, \langle a, b \rangle\} \\ w_2 \mapsto \{\langle b, a \rangle, \langle b, b \rangle\} \\ w_3 \mapsto \{\} \\ w_4 \mapsto \{\langle a, b \rangle, \langle b, a \rangle\} \end{bmatrix}$

- $\text{Dox} = \begin{bmatrix} \langle a, w_1 \rangle \mapsto \{w_1, w_2\} & \langle b, w_1 \rangle \mapsto \{w_1, w_2, w_4\} \\ \langle a, w_2 \rangle \mapsto \{w_2\} & \langle b, w_2 \rangle \mapsto \{w_2, w_3\} \\ \langle a, w_3 \rangle \mapsto \{w_1\} & \langle b, w_3 \rangle \mapsto \{w_1, w_4\} \\ \langle a, w_4 \rangle \mapsto \{w_3, w_4\} & \langle b, w_4 \rangle \mapsto \{\} \end{bmatrix}$

(1) Who left? (No one.)

(2) Who met every entity?

(3) $\llbracket \mathbf{know_H} \rrbracket =$

(4) $\llbracket \mathbf{know_K} \rrbracket =$

(5) $\llbracket \mathbf{know_{GS}} \rrbracket =$

(6)   B knows who left.

2   Multiple constituent questions

Questions like *Who saw what?* are common in natural languages. (Sometimes all of the questioned constituents behave like normal interrogative phrases; sometimes just one moves, as in English; and sometimes they are in fact blocked.) Provide meanings for *Who saw what?* in the Hamblin, Karttunen, and G&S theories. Then work to differentiate the three treatments, by focusing on answerhood conditions and embeddability.

Note: You needn't develop a compositional theory. It's the final meanings (and their associated semantic types) that we're primarily interested in. That said, we can easily have a compositional theory as long as we allow ourselves intermediate questions of the form *Who saw x*, where x is bound by a higher wh-phrase. (Thus, in situ wh-phrases must move.)

3   Questions and entailment

There is an important sense in which questions can be said to support entailments. In (7)–(8), it seems clear that the (a) cases entail the (b) cases:

(7)   a.   Who attended? $\Rightarrow$

   b.   Which students attended?

(8)   a.   Who attended? $\Rightarrow$

   b.   Did Sal attend?

For each pair, a complete answer to (a) is also a (more than) complete answer to (b).

  i. Does Karttunen's approach to questions support a definition of entailment that matches the pattern in (7) and (8)? If yes, provide the relevant definition and show how it works for (7) and (8). If no, explain why it does not.

  ii. Does G&S's approach to questions support a definition of entailment that matches the pattern in (7) and (8)? If yes, provide the relevant definition and show how it works for (7) and (8). If no, explain why it does not.

4 'Mention-some' interrogatives

The question *Who has a pencil?* is often used in situations in which the questioner is seeking to borrow a pencil from one of the listeners. Thus, the questioner does not require an exhaustive listing of all the listeners with pencils, but rather the identity of just one such person. Provide meanings for *Who has a pencil?* in the Hamblin, Karttunen, and G&S theories and assess the extent to which these theories properly account for these 'mention-one' or 'mention-some' readings. Answerhood conditions are an essential ingredient of this assessment. You can think flexibly about them. To make things concrete, suppose that $[\![\mathbf{person}]\!](d) = \{w_1, w_2, w_3, w_4\}$ for $d \in \{a, b, c\}$ and that *has a pencil* has a denotation equivalent to the following:

$$
\begin{bmatrix}
w_1 & \mapsto & \{a, b, c\} \\
w_2 & \mapsto & \{a, b\} \\
w_3 & \mapsto & \{a, c\} \\
w_4 & \mapsto & \emptyset
\end{bmatrix}
$$