The Indefiniteness and Focusing of Question Words

Question words show striking similarities among the languages of the world: They are typically morphologically related to indefinites (see Haspelmath 1997) and are typically focused (see É. Kiss 1995 among many others). These two properties have been semantically accounted for in various ways, but so far they have not been integrated into a single coherent theory. I will show that an integration can be achieved by combining two independently motivated accounts, which up to now have not been considered together. The analysis arrived at will be shown to yield a number of answerhood conditions that are left unexplained by the pertinent semantic theories of questions (see Dayal 2002 for an overview and a descriptive account), and furthermore to derive intervention effects in wh-questions (in a comparable, but significantly different way than Beck (2006)).

I propose to account for the indefinite-interrogative affinity by a variant of the approach of Kratzer & Shimoyama (2002), i.e., by an implementation of the partition theory of questions (see Groenendijk & Stokhof 1982) that is based on the assumption that question words introduce alternatives into the semantic computation, which are evaluated by the interrogative complementizer Cl[i+Q]. More specifically, I assume that question words denote dynamic existential quantifiers. In a sense, these represent alternative valuations of the existentially quantified variables. Hence if ‘∃’ and ‘→’ are dynamic operators, ∃x1...∃xn.Φ ↔ ∃x1...∃xn.Ψ is equivalent to λx1...λxn.Φ = λx1...λxn.Ψ (see Haida 2005). In a dynamic type logic, we can therefore assume the following denotations (where I assume for simplicity that wh-pronouns denote unrestricted quantifiers).

(1) a. [who]i = λP.∃u.P(i)(u)    b. [Cl[i+Q]]i = λpλj(p(i) → p(j))  (=: Q′)

The assumption that question words denote dynamic existential quantifiers is independently motivated by the fact that question words can serve as antecedents for anaphoric pronouns (cf. Van Rooy 1998):

(2) Who, won the women’s marathon? What time did she, run?

As for the focusing of question words, I assume that the F-feature borne by a question word denotes (essentially) the operator proposed in Szabolcsi (1994) for preverbal focus phrases in Hungarian, i.e., an exhaustification operator that presupposes the existence (and uniqueness) of a maximal sum of entities satisfying the predicate argument of the derived exhaustive quantifier. This is expressed by the σ-operator in (3).

(3) [F]i = λQλP.Q(i)(λiλν′(ν′ = σν.P(i)(ν)))

This assumption is justified by the fact that the wh-phrase of a simple wh-question must appear in the preverbal focus position in Hungarian:

(4) János kit kisért haza /* haza kisért?
    John,NOM who,ACC escorted home
    ‘Who did János escort home?’

If we combine these two proposals, we arrive at the conclusion that the focused wh-pronoun ki[tl+F] in (4) has the following denotation.

(5) [ki[tl+F]]i = [F](λi.[kit]i) = λP.∃u(u = σν.P(i)(ν))

On these assumptions, the question in (4) has the denotation shown in (6).

(6) ([4])i = [Cl[i+Q]]i(λi.[János]i(λiλν′(λiλν′.escort′(i)(ν, ν′))))
    = Q′(λi.∃u(u = σν′.escort′(i)(ν, ν′))

It can be easily shown that the question extension derived in (6) is defined only if at each
index there is an individual that János escorted home (otherwise the \( \sigma \)-term is undefined at some index, which leads to the biconditional being undefined). This means that we derive the existential presupposition of the simple \( \textit{wh} \)-question in (4).

In multiple question, the focusing question is relaxed in the sense that not all question words are required to be focused. This is transparently shown in Hungarian, which has only one preverbal focus position but allows for more than one preverbal \( \textit{wh} \)-phrase. This means that only \textit{mit} in (7a) and \textit{ki} in (7b) bear an \( F \)-feature (see É. Kiss 1998). Furthermore, the performatively paraphrased in (7) show that this difference leads to different pair-list presuppositions (more on these below).

(7) a. Ki mit hozott Marínak? b. Mit ki hozott Marínak?

who what \_ACC brought Mary.DAT

‘Tell me about each person ‘Tell me about each object
what he brought for Mary!’ who brought it for Mary!’

By the same assumptions as before, we derive the following denotations for (7a) and (b).

\[(7a) = [\text{Cl}]+[\text{Qi}](\lambda i(\lambda k)(\lambda i'(\lambda \nu'(\text{\text{mit}\( \, \nu' \, \, \),})()))) \]

\[= Q'(\lambda i.\exists u\forall u'(\nu' = \sigma \nu'.\text{\text{bring}(i)(\nu',\nu',\nu'))}) \]

\[(7b) = \ldots = Q'(\lambda i.\exists u\forall u'(\nu' = \sigma \nu'.\text{\text{bring}(i)(\nu',\nu',\nu'))}) \]

It can be shown that the question extension in (8a) is defined only if at each index it holds that each individual brought something for Mary. (The reason is that the dynamic biconditional in \( Q' \) requires \( \sigma \nu'.\text{\text{bring}(i)(\nu',\nu',\nu')} \) to be defined for all valuations of \( u \).)

This means that we derive the pair-list presupposition of the multiple question in (7a) (and a different pair-list presupposition for 7b).

Finally, let me note that the analysis sketched above accounts for intervention effects in \( \textit{wh} \)-questions, e.g., for the deviance of the German construction in (9).

(9) ¿Wer hat nicht wen\( ^{+\text{F}} \) getroffen?

who has not who met

\textit{intended}: ‘Who didn’t meet who?’

It can be shown that the denotation of (9) [shown in 10] is not a proper semantic question, since the intension of (10) gives rise to the trivial partition of the set of indices.

\[(9) = Q'(\lambda i.\exists u\neg\exists u'(\nu' = \sigma \nu'.\text{\text{meet}(i)(\nu',\nu'))}) \]

The reason, basically, is that \( \neg\exists u'(\nu' = \sigma \nu'.\text{\text{meet}(i)(\nu',\nu'))} \) is always false if it is defined.

**Selected references**


