

Generating subquestions in syntax

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Background. Discourse-oriented literature on interrogatives (Roberts 1996; Büring 2003) discovered a latent ambiguity in multiple interrogatives such as *Who ate what?* In these approaches, such questions represent two possible (answering) “strategies”: one where people are ‘more prominent’ (the question branches into the following subquestions: *What did A eat? What did B eat? What did C eat?* etc.) and another where food is ‘more prominent’ (subquestions *Who ate A? Who ate B? Who ate C?* etc.). Let us call this ambiguity the *strategy ambiguity*. The ‘prominence’ is assumed to be a contextually determined property. In fact, most syntactic/semantic approaches to multiple interrogatives have to rely on a pragmatic treatment of this ambiguity, insofar as all *wh*-phrases are interpreted in an equal manner: either as existential quantifiers (à la Karttunen 1977), existentially bound (distinguished/choice-functional) variables (cf. Beck 2006; Cable 2007), members of an existentially quantified tuple-variable (à la Higginbotham and May 1981), or simply as sets (à la Hamblin 1973). All these approaches basically predict that the syntax and semantics are indifferent to the strategy ambiguity.

Problem. Contrary to the prediction, in some languages the strategy ambiguity apparently originates in syntax. Consider the following contrast in English.

- (1) a. What did you buy where?
b. Where did you buy what?

Most English speakers that I consulted claim that (1a) is felicitous in contexts with a well-defined (‘prominent’) set of purchased things, whereas (1b) in contexts with a well-defined set of shops. In other words, (1a) is obligatorily associated with the strategy *Where did you buy A? Where did you buy B?* etc. and (1b) with the strategy *What did you buy in A? What did you buy in B?* etc. One could still argue that it is simply the linear precedence that somehow maps onto pragmatics and that there is no deep syntactic/semantic ambiguity. Czech provides evidence against this view. Czech makes use of both single *wh*-fronting (SF) as in (2) and multiple *wh*-fronting (MF) as in (3).

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| (2) Co jsi koupil kde ? / Kde jsi koupil co ?
what AUX bought where / where AUX bought what
‘What did you buy where / Where did you buy what?’ | (3) Co jsi kde koupil? / Kde jsi co koupil?
what AUX where bought / where AUX what bought
‘What did you buy where’ or ‘Where did you buy what’
or single-pair reading |
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While SF imposes rather strict conditions on the shape of the strategy, precisely as the English (1), MF is open to many more interpretations: it is compatible with both discussed strategies (irrespective of which *wh*-word appears higher) and moreover, it is compatible with a reading where the set of answers is not structured into subquestions at all (a situation corresponding to a single-pair reading of the question). In sum, it appears that Czech makes use of both syntactic/semantic (in SF) and pragmatic (in MF) resolution of the strategy ambiguity.

Analysis. The goal is to ensure that the alternatives contributed by an in situ *wh*-word are computed *within* the alternatives contributed by a moved *wh*-word. The problem can be addressed in a number of different ways. I sketch two basic types of solution, one based on a semantic asymmetry, the other on a syntactic asymmetry. **Semantic account.** This account, heavily inspired by Hagstrom (1998), exploits the idea that *wh*-words can be interpreted in two different ways, depending on their syntactic position. If they are in situ, they denote distinguished variables (Kratzer 1991; Beck 2006) and thus have to be bound by a focus-sensitive operator, in order to be

interpretable. If they are moved, they denote a set of ‘ordinary’ (non-focus) Hamblin alternatives. As such, they directly contribute to the ‘ordinary’ meaning of a question and need no binding. Crucially, the focus alternatives contributed by the lower *wh*-word are computed *within* the Hamblin alternatives, as required. **Syntactic account.** This account is based on the idea that there are two interrogative operators (possibly corresponding to Foc/Top heads). The lower one (Foc) takes a proposition as its argument and returns a set of propositions (a (sub)question) and the higher one (Top) selects a set of propositions and returns a set of sets of propositions (a set of subquestions). In order to account for the data, we need to assume that the *wh*-word in situ is bound by the operator in Foc and the moved *wh*-word by the one in Top. Both analyses arrive more or less at the same semantics, whose simplified representation I give below:

$$(4) \quad \llbracket (1a) \rrbracket = \lambda P_{\langle st,t \rangle} \exists x \in \text{thing}. P = \lambda p_{\langle st \rangle} \exists y \in \text{shop}. p = \text{you bought } x \text{ in } y$$

Both analyses are descriptively adequate but fail to motivate the dependency between the proposed semantics/syntax and in-situ-hood. On the basis of comparison with other kinds of indefinites, I suggest that *wh*-in-situ-hood corresponds to FOC-marking of the *wh*-word. On the semantic account, this requires that the FOC-marked *wh*-word be interpreted as a distinguished variable. On the syntactic account, the FOC-marking corresponds to the selective binding from the Foc head.

Supporting evidence. If time permits, I will discuss supporting evidence of various kind. (i) Non-echo *wh*-in situ questions in Czech and English require the presence of a contrastive topic, which suggests that the correspondence between *wh*-in-situ-hood and FOC-marking is not limited to multiple interrogatives. (ii) The semantic account makes predictions concerning the scope-taking properties of moved and in situ *wh*-words. Whereas moved *wh*-words are sensitive to Hamblin quantifiers, which can prevent them from taking top (interrogative) scope, in situ *wh*-words are sensitive to focus-sensitive quantifiers (they are subject to intervention effects). (iii) Complex *wh*-phrases, such as *which book*, are similar to indefinites like *some book*, in that they need not be FOC-marked even if they are in situ. This explains why multiple interrogatives with complex *wh*-phrases are more easily interpreted in a single-pair fashion. (iv) The obligatory alternative-embedding associated with SF multiple interrogatives makes the interrogatives sensitive to rather specific contextual conditions. If these conditions are absent (such as in conversation starters), only MF is possible.

References

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