Focus placement affects the interpretation of multiple interrogatives

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Background. Multiple *wh*-questions (MWQ) have (at least) two possible readings: a single-pair (SP) and a pair-list reading (PL). The representation of SP is a *set of propositions* and thus resembles the one of ordinary questions (originally Hamblin 1958). PL is represented as a *set of questions*, i.e. a set of sets of propositions (Hagstrom 1998). This analysis, adopted by most linguists working on MWQ in Slavic, has two crucial ingredients. First, *wh*-words (*wh* for short) are represented as Hamblin sets (of individuals) (Kratzer & Shimoyama 2002). Hamblin sets are semantically composed with their sisters by *flexible functional applicaton*, which enables a function to yield a value for each of the arguments in the set (thus producing another Hamblin set). Second, questions involve a *Q*-morpheme, which (in combination with an interrogative C^0) takes a proposition as its argument and yields a set of propositions (i.e. a question) as its value. At the same time, *Q* is an existential quantifier binding a choice-function variable in its scope. The choice function (or *Q* for short), whose function is to turn a Hamblin set into a single member of that set, is instrumental in deriving the SP/PL difference: if both *wh* in a MWQ are in the scope of *Q*, we get SP (1a); if only one *wh* is in the scope of *Q*, we get PL (1b). On Hagstrom's original proposal, *Q* takes either the whole TP or one of the *wh* as its sister. It was soon noted that this proposal overgenerates, when viewed cross-linguistically (e.g. Bulgarian MWQ do not have SP). Bošković (2001) amends Hagstrom by assigning *Q* a [+wh] feature. Obligatory *wh*-fronting (to SpecCP) is therefore incompatible with *Q* being merged with TP, because its [+wh] intervenes for *wh* attraction to SpecCP. This leaves a *wh* as the only possible sister for *Q* and PL as the only possible reading for *wh*-fronting languages. Grebenyova (2004) puts into doubt Bošković's idea that the incompatibility with SP is tied to *wh*-fronting to SpecCP (e.g. Russian has no such fronting but still disallows SP). She proposes that the selectional properties of *Q* are lexically determined—either it can select only *wh* or both *wh* and TP. For Grebenyova, the question of "what determines the lexical choice of a particular *Q*-morpheme crosslinguistically [...] can[not] be answered in any insightful way." We disagree with this agnostic view and propose that *Q*-placement can be derived on independent grounds.

Proposal. We propose that *Q* always selects the constituent which is in focus. This can be a *wh* but does not have to be (cf. Eckardt 2007). The primary evidence comes from Czech, which has two MWQ patterns: multiple *wh*-fronting (MF) with both SP and PL available (2a), and single *wh*-fronting (SF) with only PL (2b). *Deriving PL-only in SF (7a).* It can be shown that *wh*-based indefinite pronouns in postverbal position attract narrow focus (3). This holds also for the postverbal *wh* in (4b), which, being in focus, triggers a presupposition that somebody said something and (4b) thus cannot be used in a rhetoric fashion. It follows automatically that SF only has PL because *Q* must associate with the postverbal *wh*. Interestingly, we also account for the availability of SP with complex *wh*-phrases in postverbal positions (5) since complex indefinites in postverbal positions do not attract narrow focus (6). *Deriving SP in MF (7b).* Both *wh* undergo a movement which we could call "escape (narrow) focus" (EF-movement), i.e. some sort of scrambling to the vP edge (cf. Sturgeon 2007). This creates a broad-focus configuration, where the whole vP/TP is selected by the focus-sensitive *Q*. *Deriving PL in MF (7c).* One of the *wh* undergoes the EF-movement and the other moves to SpecFocP. Since the latter one is in a derived narrow focus position, it is selected by *Q*. These clearly semantically motivated movements are followed by a semantically vacuous movement of one of the *wh* to a clause-initial position, motivated by clause typing (Cheng 1991). The **main prediction** of this system is that the (un)availability of SP/PL in a language should correlate with the (un)availability of *wh*-movement into / out of focus in that language. E.g. the lack of *wh*-scrambling in English derives its lack of SP; *wh*-scrambling in Japanese, on the other hand, yields SP (Hagstrom 1998), as predicted.

(1) Which student invited which girl? [a. – Adam invited Karen (SP) / b. – aIk, bIl, cIm (PL)]

a. SP: $\lambda p \exists f.p = f(\lambda p' \exists x \in student' \exists y \in girl'.p' = invited'(x,y))$

b. PL: $\lambda P \exists x \in student'.P = \lambda p \exists f.p = invited'(x, f(\lambda y.girl'(y)))$

(2) a. Kdo mu asi co řekl? / b. Kdo mu asi řekl co?.
who him probably what told who him probably told what
'Who could tell him what? (a. SP or PL, b. only PL)'

(3) Popřel, že by se a. s kýmkoli vyspal / b. vyspal s kýmkoli.
denied that would refl with anyone sleep sleep with anyone

a. 'He denied that he slept with anyone'
$claim(x_{he}, \neg \exists y.slept.with(x_{he}, y))$ Neg takes wide scope ≈ broad focus

b. 'He denied that he slept with just anyone'
$claim(x_{he}, \exists y.slept.with(x_{he}, y) \wedge \neg(freechoice(y)))$ Neg takes narrow scope ≈ narrow focus

(4) Prosím tě, a. kdo mu mohl co říct!? / b. * kdo mu mohl říct co!?
please you who him could what tell who him could tell what
Lit. 'Come on, who could tell him what?' ≈ 'Come on, nobody could have told him anything!'

(5) Nevím, kdo koupil jakou/kterou knížku.
not.know who bought what/which book
'I don't know who bought what/which book. (SP or PL)'

(6) Popřel, že by koupil jakoukoli/kteroukoli knížku
denied that would buy any.kind.of/any.one.of book
'He denied that he bought any book.' ≈ (3a)

(7) Syntax of single fronting and multiple fronting ($\langle$X$\rangle$ is an intermediate copy/trace; interpreted copies are underlined)

a. SF $[_{\text{CP}}\ wh_1\ [_{\text{TP}}\ \ldots\ [_{\text{vP}}\ \underline{\langle wh_1 \rangle}\ [_{\text{vP}}\ \text{V}\ \mathbf{Q}\ \underline{wh_2}]]]$

b. MF/SP $[_{\text{CP}}\ wh_1\ [_{\text{TP}}\ \ldots\ \mathbf{Q}\ [_{\text{vP}}\ \underline{\langle wh_1 \rangle}\ \underline{wh_2}\ [_{\text{vP}}\ \text{V}]]]]$

c. MF/PL $[_{\text{CP}}\ wh_1\ [_{\text{FocP}}\ \mathbf{Q}\ \underline{wh_2}\ [_{\text{TP}}\ \ldots\ [_{\text{vP}}\ \underline{\langle wh_1 \rangle}\ [_{\text{vP}}\ \text{V}]]]]]$

References

Bošković, Ž. 2001. On the interpretation of multiple questions. *Linguistic Variation Yearbook* 1:1–15. **Cheng, L. 1991.** On the typology of wh-questions. Doctoral Dissertation, MIT. **Eckardt, R. 2007.** Inherent focus on wh-phrases. In *Proceedings of SuB 11*, ed. E. Puig-Waldmüller, 209–228. Barcelona: Universitat Pompeu Fabra. **Grebenyova, L. 2004.** Interpretation of Slavic multiple wh-questions. In *Formal Approaches to Slavic Linguistics 12: The Ottawa Meeting 2003,* ed. O. Arnaudova, W. Browne, M. L. Rivero, and D. Stojanović, 169–186. Ann Arbor, MI: Michigan Slavic Publications. **Hagstrom, P. 1998.** Decomposing questions. Doctoral Dissertation, MIT, Cambridge, MA. **Hamblin, C. L. 1958.** Questions. *The Australasian Journal of Philosophy* 36:159–168. **Kratzer, A., and J. Shimoyama. 2002.** Indeterminate pronouns: The view from Japanese. In *Proceedings of the Third Tokyo Conference on Psycholinguistics,* ed. Y. Otsu, 1–25. Tokyo: Hituzi Syobo. **Sturgeon, A. 2007.** Another look at multiple wh-questions in Czech. In *Formal Approaches to Slavic Linguistics 15: The Toronto Meeting 2006,* ed. R. Compton, M. Goledzinowska, and U. Savchenko, 402–416. Ann Arbor: Michigan Slavic Publications.