Lydia Grebenyova. *Syntax, semantics, and acquisition of multiple interrogatives: Who wants what?* Amsterdam: John Benjamins, 2012. [*Linguistics Today*, 195.]

Reviewed by Radek Šimík

1. Introduction

Lydia Grebenyova's book *Syntax, semantics, and acquisition of multiple interrogatives: Who wants what?* is an updated and extended version of her University of Maryland dissertation (Grebenyova 2006). Chapter 1 (1–20) corresponds to chapter 2 of the dissertation; the analysis it presents is updated. Chapter 2 (21–56) corresponds to chapter 3 of the dissertation, chapter 3 (57–80) corresponds to chapter 4 of the dissertation, and chapter 5 (107–43) corresponds to chapter 5 of the dissertation. I was not able to trace any major updates in these three chapters. Chapter 4 (81–105) and chapter 6 (145–63) are new and present further studies closely related to the topic. Chapter 7 (165–68) is also new but contains only a summary of the book. In addition, the book consists of a table of contents (vii–ix), a list of abbreviations (xi), a preface (xiii) (mainly containing acknowledgements), an Introduction (xv–xviii) (mainly containing an overview of the book), references (167–77), Appendices A, B, and C (179–87), which provide the materials for the experiments (experimental items, scripts of stories) reported on in chapters 5 and 6 of the book, and finally an Index (189–91) (containing a selection of subjects, languages, and authors).

The review is organized as follows. In section 2, I provide a general evaluation together with a bird's eye view of the issues discussed in the book. In section 3, I move on to a detailed chapter-by-chapter review. Section 4 is the conclusion. Section 5 is an appendix containing the list of minor issues.[1]

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[1] I mostly stick to the terminological and abbreviation conventions used by Grebenyova herself. For instance, I abbreviate single-pair and pair-list readings of multiple wh-questions as SP and PL readings, left-branch extraction as LBE, etc. I will systematically refer to multiple wh-questions/interrogatives as multiple wh-questions

2. General Overview and Evaluation

The book is quite broad in the range of phenomena it deals with. The following list provides just a selection of the main topics: the structure and interpretation of multiple wh-questions, wh-fronting and contrastive focus fronting, superiority effects, sluicing, different types of islands, left-branch extraction, head movement, and the syntax of the left periphery. Selected issues are then discussed from the perspective of language acquisition.

In chapters 1 and 2 G(rebenyova) deals with the syntactic and semantic issues that lie at the heart of MQs. In chapter 1 she looks at the problem of superiority in wh-fronting, providing an account of the newly observed matrix-embedded contrast in superiority effects in English: superiority effects are claimed to be stronger in embedded MQs than in matrix MQs. G sets up a sophisticated account of this phenomenon, based on the idea that superiority effects are weaker in contexts of T-to-C movement, and provides some convincing cross-linguistic support for her analysis. In chapter 2 G deals with the inter-pretation of MQs. She adopts the compositional framework set up by Hagstrom (1998), who argues that MQs can either denote a set of propositions (in which case they have the single-pair (SP) reading) or a set of questions (in which case they have the pair-list (PL) reading). Based on old and new observations regarding the (un)availability of the SP reading, G proposes a number of modifications to Hagstrom's system. Yet, the issues are complex, and as I try to show below, G does not always manage to formulate her proposals in a convincing way.

Another topic prominent in chapters 1 and 2 is the phenomenon of interpretive superiority—the loss of PL readings in contexts of licit superiority violations. The term interpretive superiority was introduced by Bošković (2001) and the relevant observation was first

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and will mostly abbreviate the term as MQs. Whenever I use the term wh-phrase, I take it to be neutral between so-called simple/bare wh-phrases (*who, what, where,* etc.) and complex wh-phrases (*which student, what book, etc.*). Also, I refer to simple/bare wh-phrases as wh-pronouns. I often abbreviate contrastive focus as CF. Finally, I abbreviate Lydia Grebenyova's name simply as G. Cited examples are numbered by the same numbers as in the book. My own examples are numbered using capital Roman numerals.

made by Hagstrom (1998) for Japanese and Sinhala. G puts forth a novel proposal based on the idea that wh-fronting cannot pied-pipe the Q-morpheme. Yet, the Q-morpheme cannot be stranded either, since that would lead to a type-mismatch between Q and the trace left after wh-movement. It follows from these two restrictions that in contexts of licit superiority violations, the Q-morpheme must attach somewhere else than to the lower wh-phrase (which happens to be the default option attachment).[2] In particular, the Q-morpheme must attach to TP. Such attachment, in turn, is argued to give rise to SP readings only. As I will show below, this analysis is not without problems.

The main strength and value of G's book does not, I believe, dwell in the proposals about the core syntactic and interpretive properties of MQs but rather in the discussion of the MQs in relation to phenomena such as sluicing or left-branch extraction.

In chapter 3 G deals with the issues of (multiple) sluicing, multiple wh-fronting, (multiple) contrastive focus (CF)-fronting, interpretation of MQs, and superiority. Taking Merchant's (2001) and van Craenenbroeck and Lipták's (2005) analyses as the starting point, G proposes to account for the intricate set of facts she presents by the assumption that sluicing is ellipsis (PF-deletion) of the complement of a functional head that bears the [focus] feature (be it Foc or C). Such a simple analysis is possible thanks to the fact that wh-fronting is (universally) analyzed as CF-fronting. Valuable are G's original arguments for the existence of complex syntactic structure in the ellipsis site. G shows that the (un)availability of SP readings in MQs is preserved under multiple sluicing (ellipsis after the extraction of multiple wh-phrases). This interpretive aspect of MQs, G argues, can only be cap-

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[2] Hagstrom's (1998: chapter 8) account of the default low attachment of the Q-morpheme is based on the principle Avoid Flexible Functional Application: The semantic effect of the Q-morpheme is that it turns sets of denotations into ordinary denotations. Only the latter type of denotation may be compositionally computed using the run-of-the-mill rule of functional application. The former type of denotation requires the rule of flexible functional application. The idea is that flexible functional application is costly—hence there is a principle that avoids it. The consequence is that the Q-morpheme is introduced into the derivation as early as possible. G proposes her own account of the default low attachment, one based on viral selectional features, without discussing Hagstrom's analysis. At first sight, it seems that Hagstrom's and G's analyses do not differ in predictions.

tured if the LF preserves the structural relationship between the wh-phrases and the base-position of the Q-morpheme. Finally, G addresses the puzzling fact that multiple sluicing appears to "reintroduce" the superiority restriction even in languages which are normally not subject to it.[3] G presents an argument that the observed phenomenon is not superiority at all—rather, it is a subcase of the scope parallelism constraint of Fiengo and May (1994) and Fox and Lasnik (2003), which dictates that the LF (scopal) information of operator-variable relationships in an ellipsis site must be preserved from the antecedent of the ellipsis.

In chapter 4 G discusses the complex interaction between left-branch extraction (LBE), multiple wh-fronting, sluicing, and sluicing-fed island repair. G proposes a novel analysis of LBE as head movement—particularly the movement of adjectival heads to the functional head $Top^0$. The ban on multiple LBE is newly analyzed as an instance of the violation of the Minimal Link Condition (MLC):[4] a $Top^0$ cannot attract a left branch when another left branch has already adjoined to a lower $Top^0$—the already fronted left branch is an intervener for the purpose of such attraction. This analysis makes the correct prediction that multiple LBE is not saved by sluicing: multiple LBE is ruled out by a derivational constraint—the MLC—and derivational constraints cause ungrammaticality at the immediate point of derivation at which they apply. No later operation can undo them. Finally, G provides a novel solution to the surprising problem that sluicing does not repair the combination of LBE with another representational island constraint (such as the complex NP constraint).[5] Elaborating on the tradition started by Chomsky (1973), G proposes that representational constraint violations are marked by a star-diacritic directly on syntactic expressions, in particular, the lower copy of the expression, whose movement has led to the constraint violation. In addition, G proposes that while phrasal categories/copies are capable of absorbing more violation stars, heads can only do so once. If a head escapes two islands, one of the violations must be marked on the fronted copy—the remnant of sluicing. Provided that LBE is head movement—as inde-

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[3] The observation was first made by Stjepanović (2003) for Serbo-Croatian.

[4] The ban on multiple LBE was first observed by Fernández-Salgueiro (2006) for Serbo-Croatian.

[5] This problem was first observed by Merchant (2001) for English.

pendently argued by G—LBE can never be repaired by sluicing if it takes place out of more than one island: in such cases, the remnant will always carry a violation star which would eventually lead to a crash at the interface. Since in English LBE itself violates an island, it will not get repaired by sluicing if it takes place out of an additional island. In Russian, on the other hand, LBE out of one island gets repaired by sluicing (LBE itself not causing an island violation), yet LBE out of two islands will not get repaired by sluicing. This striking prediction is shown by G to be borne out.

Chapters 5 and 6 present experimental studies on the acquisition of MQs, which provide further support to some of the conclusions reached in the previous chapters. These studies are, to the best of my knowledge, the first of their kind (they compare MQ production of children and adults) and are therefore of great value to the field of syntax and semantics of wh-questions as well as language acquisition in general. G shows that in English and Russian, MQs with wh-pronouns are not produced in SP contexts: as argued before, only PL readings are available for MQs in these languages. In Malayalam, on the other hand, MQs are produced in both PL and SP scenarios—proving that there is genuine cross-linguistic variation in the availability of different MQ readings. Finally, G provides experimental support to the hypothesis, defended throughout the book and in previous literature (Stepanov 1998, Stjepanović 1998, Bošković 2002), that wh-fronting is intimately tied to contrastive focus fronting: G suggests that there is a parallelism in their acquisition and that the acquisition of wh-fronting in MQs is, at least to some extent, parasitic on the acquisition of CF-fronting.


3. A Chapter-by-Chapter Review

3.1. Chapter 1: Superiority—Syntactic and Interpretive


The core generalization of this chapter is represented by the contrast between (5b) and (5c): superiority effects are claimed to be weaker in matrix questions than in embedded questions. As noted by G, this contrast is not explained by the standard Minimal Link Condition-

style account of superiority (Chomsky 1995, 2000, 2001, 2005) and calls for an independent explanation.

(5)      b.        ??What$_1$ did who buy $t_1$?
         c.        *John wonders what$_1$ who bought $t_1$.

It would be desirable if this generalization about English were supported by more than just a single minimal sentence pair, judged by two native speakers (two native speakers of English are acknowledged as informants in the Preface). It would have been more convincing to see the contrast replicated on more tokens, as well as types: Does the contrast replicate in other type of embedded contexts? How about other verbs selecting for wh-clauses (verbs of knowledge, verbs of saying, verbs of asking, etc.)? How about MQs in non-complement positions (*Who bought what didn't surprise me at all*)? Also, provided that the matrix-embedded contrast is so very fine (* vs. ??), it would be good to have judgements from many speakers in order to ensure its significance. Solid data would lend more credibility to the theoretical account that G develops to explain the generalization.

G's account is based on the novel Non-identical Agree Principle:

(10)   Non-identical Agree Principle (NAP): A Probe cannot establish an Agree relation with a Goal more than once at different points in the derivation. (p. 6)

The NAP ties weakened superiority effects in (5b) to the presence of T-to-C movement: In matrix MQs, i.e., in contexts of T-to-C movement, the C-T complex avoids entering an Agree relationship (for wh-feature checking) with the wh-subject because T has already agreed with this phrase before, namely for reasons of phi-feature checking. Instead, the C-T complex agrees with the object wh-phrase, which effectively results in its movement to SpecCP.[6] In embedded

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[6] The question that remains open is why (5b) comes out as only marginally acceptable (??) rather than perfectly acceptable. In answer to this question (section 4: Interpretive superiority), G adopts two assumptions from the literature. First, she claims that English MQs with wh-pronouns (rather than complex wh-phrases) only allow for pair-list (PL) readings (as opposed to single-pair (SP) readings) (Wachowicz 1974, Bošković 2001). Second, she claims that superiority violating MQs generally rule out PL

MQs, on the other hand, where there is no T-to-C movement, C is a Probe independent of T, hence there is nothing that would block the Agree relationship between C and the wh-subject, resulting in its movement to SpecCP. The agreement between C and the wh-object is blocked by the Minimal Link Condition.

The NAP seems to be based on two problematic premises: (i) that Probes and Goals are heads (rather than features) and (ii) that, for purposes of Agree/probing, $X^0 = [_Y \ X^0 \ Y^0]$. Premise (i) is in contradiction with much recent literature on Probe-Goal-based Agree (Rezac 2003, Pesetsky and Torrego 2007), including Chomsky 2000, which G claims to build on. In fact, if one assumes Chomsky's and others' version of Probe-Goal-based Agree, the NAP follows automatically, simply because a single Probe cannot probe twice: a single probing event leads to the deletion of the Probe, making it impossible for it to probe again. Yet, in her explanation of the embedded-matrix clause asymmetry, G crucially relies on formulating Agree with respect to heads rather than features. Therefore, if the idea that Probes and Goals are heads is to be upheld, it is still awaiting independent justification. Alternatively, G's NAP should be reformulated in a way compatible with standard assumptions about Probes and Goals. A possible reformulation is below (with the particular case at hand in brackets):

(I)   A Probe [$P_1$] on head $H_1$ ([wh] on C-T) cannot establish an Agree relation with a Goal [$G_1$] on head $H_2$ ([wh] on the subject DP) if some [$P_2$] on head $H_3$ ([phi] on T), such that $H_1$ (reflexively) dominates $H_3$ (C-T dominates T), has established an Agree relation with a Goal [$G_2$] on head $H_2$ ([phi] on the subject DP) at some earlier point in the derivation.

I leave it up to the readers to judge the naturalness of such a principle and whether they, should they decide to follow G's explanation of the matrix-embedded asymmetry, adopt something like (I) or whether they attempt to justify the idea that Probes and Goals are (complex) heads rather than features.

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readings (and only allow for SP readings) (claimed by Hagstrom 1998 for Japanese and by G for Bulgarian and Russian). G follows Bošković (2001) in calling this loss of the PL reading in these circumstances Interpretive Superiority. It follows from these two assumptions that (5b) is unacceptable.

Provided the general nature of the NAP, it is a pity we do not get any justification from other empirical domains than multiple wh-movement and the T-C area of the clausal functional sequence. What else falls under the scope of the NAP? As it stands, the proposal runs the danger of being ad hoc.

After showing that her proposal makes some correct cross-linguistic predictions (Icelandic, Brazilian Portuguese, and Bulgarian are discussed), G discusses the prediction that the presence or absence of T-to-C movement should have no impact on superiority in MQs with non-wh-subjects: superiority should always apply. G illustrates that the prediction is borne out for English.

It is a pity that G has not extended her discussion of this prediction to other languages. This would have been welcome especially for Bulgarian, for which there has been a controversy about the issue. While some authors have provided facts in line with G's predictions (non-subject wh-phrases are subject to superiority in Bulgarian; e.g., Bošković 1998a, 1998b, 1999, Lambova 2003), others have claimed otherwise (non-subject wh-phrases are not subject to superiority in Bulgarian; Billings and Rudin 1996, Grewendorf 2001, Jaeger 2004).

In section 5.3 G proposes a new analysis of the absence of T-to-C movement in (single or multiple) wh-questions with initial wh-sub-jects (e.g., *Who did leave?* vs. *Who left?*). The analysis builds on the proposals of George (1980) and Chomsky (1986), who have argued that such questions do not project the relevant projection to which the auxiliary could move. G's particular implementation further builds on related proposals for Slavic languages (e.g., Stepanov 1998 or Bošković 2002), combined with the cartographic approaches to the left periphery (Rizzi 1997, 2001). The idea is that wh-subject-initial wh-questions do not project the Int layer (cf. Rizzi 2001), to whose specifier wh-phrases normally move, and the wh-subject occupies SpecFocP (cf. [$_{FocP}$ who [$_{FinP/TP}$ came]]). This updated analysis is capable of handling sluicing (*Someone left but I don't know who*) in the standard way, namely as TP-ellipsis. G implicitly assumes that T-to-C movement translates as Fin/T-to-Int movement. Since wh-subject-initial wh-questions do not project Int, no such movement takes place and Foc (containing wh-features) can enter an agreement relationship with the wh-subject.

One could ask whether the adoption of Rizzian left periphery in this context is a necessity. It seems that the only reason for G to take this step is the assumption that a wh-subject in SpecTP (as proposed

by George 1980 and Chomsky 1986) does not support sluicing. Crucially, the problem with sluicing only arises if one assumes that sluicing is TP-ellipsis.[7] There is, however, an independent argument from Slavic modal existential wh-constructions that sluicing should not be defined rigidly as TP-ellipsis, but rather more generally as the ellipsis of the complement of a certain type of fronted constituents—irrespective of which category they front to (see Šimík 2011, 2012). This means that the original non-CP analysis of wh-subject questions could in principle be upheld—the apparently problematic cases of sluicing could simply be deletions of whatever is the sister of the wh-subject (say, vP).

Such an approach, it seems to me, would avoid another potential problem for G's analysis. It is crucial for G that Fin/T-to-Foc movement be banned in English. If it were allowed, the agreement of Foc and the wh-subject would be ruled out by the NAP (the complex head Foc-Fin/T could not check the wh-features of the wh-subject, since the subject has already agreed with Fin/T) and matrix MQs would therefore always have to violate superiority (front wh-objects). However, it is questionable whether banning the Fin/T-to-Foc movement is well motivated. Firstly, V-to-Foc-style head movements are very often assumed for focus constructions and wh-questions, esp. for languages with the (descriptive) condition on focus/wh-V adjacency, e.g., for Hungarian, Italian, Basque (Irurtzun 2006), Kashmiri (Bhatt 1999), etc. Secondly and perhaps more importantly, once one adopts a FocP for English, shouldn't one analyze non-interrogative auxiliary inversion structures (*Only on Monday did we reach New York*) as cases of Fin/T-to-Foc? If yes, why should such a movement be blocked in wh-questions with wh-subjects?

The adoption of a FocP for English has another problematic consequence for G. In section 5 of chapter 5 G hypothesizes that the existence of a Foc projection in a language is indicative of the existence of SP readings. Hence, if English has Foc, its absence of SP readings (and consequently the reduced acceptability of (5b)) remains a mystery.

3.2. Chapter 2: Semantics of Multiple Interrogatives

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[7] This classical view of sluicing is endorsed in the influential analysis of Merchant 2001, but also by G herself (chapter 3).

G's goal in this chapter is to account for the distribution of pair-list (PL) and single-pair (SP) readings of MQs. On the one hand, the distribution is conditioned by language-specific properties. On the other hand, there are various structural factors which make SP available and/or PL unavailable. G discusses four of them: (i) Interpretive Superiority, i.e., the loss of PL readings in cases of fronting of wh-objects across wh-subjects (Japanese, Serbo-Croatian); (ii) in languages where SP readings are ruled out in questions with multiple wh-pronouns (English, Russian), they become available in questions with complex wh-phrases; (iii) in such cases (in English and Russian), Interpretive Superiority does not apply, i.e., PL readings survive even when a wh-object crosses a wh-subject;[8] (iv) if the lower wh-phrase is separated from its scope position by a (non-wh-)island boundary, only SP readings are available (in English).

G's cross-linguistic and empirical scope in this chapter is ambitious and certainly unprecedented in the literature on the distribution of various MQ readings. As I will try to show below, however, a number of aspects of G's account call for substantial improvement or at least clarification.

Sections 2 and 3 are dedicated to setting the theoretical background. It is unfortunate that the assumptions introduced in these two sections are not fully compatible with each other and do not form a coherent theory. Some of the consequences of this will be mentioned below.[9]

In section 2, G adopts a generalized version of Reinhart's (1998) semantic analysis of questions, according to which all wh-phrases denote sets of individuals selected by a choice function and are interpreted in situ. All the choice functions introduced by the wh-

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[8] This is contra the claim/intuition of Barss (2000), who claims Interpretive Superiority to apply in these cases in English.

[9] In a nutshell, G adopts two different theories of question semantics: Reinhart 1998 and Hagstrom 1998. Even though these theories share the idea that the relation between wh-phrases and the interrogative complementizer is mediated by a choice function, there are important differences. Just to give an impression: For Reinhart, there are as many choice functions as there are wh-phrases; for Hagstrom, there is a single choice function per question (called "Q-morpheme"). Reinhart's choice functions always stay in situ; Hagstrom's Q-morpheme always moves. The semantics of the interrogative complementizer is significantly different, too. G is not clear about how these non-trivial differences should be reconciled.

phrases are unselectively bound by the interrogative $C^0$. It follows that wh-movement does not take place for reasons of interrogative interpretation—G hypothesizes that wh-movement takes place either for purely formal reasons (wh-feature checking) or clause-typing reasons (grammaticalized pragmatics). At this point, she does not mention two other possibilities, which are in fact adopted in later chapters, namely movement for licensing focus and topic features on wh-phrases.

In section 3, G discusses theoretical approaches to the SP/PL distinction and ends up adopting (and adapting) the approach of Hagstrom (1998). Hagstrom proposes that SP readings of MQs correspond to a set of propositions and PL readings correspond to a set of questions (set of sets of propositions). Each set of propositions contains one that corresopnds to the answer, which means that if a question denotes a multitude of such sets, there are a multitude of answers (a "list" of answers). Whether a SP or PL question is generated depends on the base position of the so-called Q-morpheme: if the trace of the Q-morpheme scopes over only one of the wh-phrases (e.g., if it is a sister of one of the wh-phrases), a PL reading is generated. If, on the other hand, the trace of the Q-morpheme scopes over both wh-phrases (e.g., if it is a sister of TP), a SP reading is generated.

G's major modification of Hagstrom 1998 dwells in the position where Q-morpheme is base-generated. While Hagstrom's Q-morpheme is always generated as the sister of the structurally lowest wh-phrase, G's Q-morpheme has lexically specified selectional properties. Parametrizing these selectional properties becomes the tool to capture cross-linguistic variation.[10] For instance, the English Q-morpheme is restricted to select a wh-phrase.[11] Consequently, only one wh-phrase is in its scope, leading to PL readings. Serbo-Croatian, on

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[10] Hagstrom achieves some flexibility of the Q-morpheme's position by postulating the process of "Q-migration". This process can re-base-generate the Q-morpheme under certain conditions. Generally, it holds that G's system generates a proper superset of structures allowed by Hagstrom. Also, G's system, as set up in this chapter, is less predictive because there are in principle no restrictions on how Q can be lexically specified. The predictive power is improved somewhat in chapter 5, where G proposes that the capability of the Q-morpheme to select for a clause in a certain language follows from the capability of the language to project focus in syntax.

[11] This restriction is compromised in section 7 of this chapter.

the other hand, has two Q-morphemes in its lexicon: one selects a wh-phrase and the other the whole clause (TP or later, in chapter 5, FocP), generating PL and SP readings, respectively. G argues that her system is empirically superior to the one of Bošković (2001), who proposed that the availability of SP readings in a language correlate with the absence of wh-movement in the narrow sense (i.e., wh-movement to SpecCP).[12]

G's discussion and eventual dismissal of alternative approaches to the SP/PL distinction is a little too hasty. Focusing on Skolem function-based approaches (Engdahl 1986, Chierchia 1993, Dayal 1996), she claims that "there seems to be no way to capture the cross-linguistic distribution of the SP reading in these approaches. All of them predict that whenever a PL reading is available, a SP reading is available also…" (p. 32) G might be right that no one has ever seriously attempted to model the cross-linguistic distribution of SP/PL readings using Skolem function-based semantics, but that does not mean that it is not possible. It should be mentioned that Skolem function-based semantics does have a way of generating SP and PL readings: if neither wh-phrase involves a Skolem function in its denotation, a SP reading is generated; if one of the wh-phrases does involves a Skolem function, a PL reading is generated. Both types of readings are answerhood-conditionally equivalent with the ones generated in the set-of-questions system of Hagstrom (1998). With respect to the potential of the Skolem function-based approach to account for cross-linguistic differences, one must look for a way of parametrizing the possibility/necessity of including a Skolem function in the denotation of wh-phrases. For instance, in English one of the wh-phrases must involve a Skolem function. In Serbo-Croatian including a Skolem function in the denotation of wh-phrases is only a possibility. The reader will notice that the problem of parametrizing the distribution of Skolem functions is not that different from the problem of par-ametrizing the distribution of choice functions (Q-morphemes).

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[12] Actually, Bošković's (2001) approach does not work the way he envisions, as it is based on the faulty assumption that the choice function introduced by the Q-morpheme is interpreted in its moved position, i.e. at the interrogative C. Notice that Hagstrom (1998), who Bošković relies on, assumes that in its moved position, the Q-morpheme denotes an existential quantifier binding the in-situ choice-functional variable. It is only the position of the variable that determines whether the question gets a PL or SP reading; the position of the quantifier is immaterial.

G's account of Interpretive Superiority is based on the following three assumptions:[13] (i) wh-movement/movement of wh-phrases strands the Q-morpheme (if there is one); (ii) the trace of the wh-phrase is interpreted as an individual variable; i.e., only in its derived position does the wh-phrase denote a set of individuals (G takes this to be a consequence of the general principle against vacuous movement); (iii) in languages which display Interpretive Superiority effects (English, Japanese, Serbo-Croatian), Q-morphemes always attach to the structurally lowest wh-phrase (if they attach to a wh-phrase); this is ensured by the need of Q to check strong (viral) selectional features.

Q-morpheme-stranding leads to uninterpretability at the LF-semantics interface: the denotation of the Q-morpheme requires a set as its argument but if the wh-phrase has moved away, only an individual variable is left behind. Consequently, it is impossible to move a wh-phrase to which a Q-morpheme has attached. In a language like English, which disallows TP attachment of Q-morphemes and also its attachment to higher wh-phrases (by assumption (iii)), the only possibility is to attach the Q-morpheme to the lower wh-phrase, which in turn prohibits its movement. In a language like Serbo-Croatian and Japanese, the Q-morpheme must attach to TP if the lower wh-phrase moves: attachment to the lower wh-phrase is ruled out by (i)+(ii) and attachment to the higher one is ruled out by (iii). Since TP-attachment is generally associated with SP readings, the PL reading is claimed to be ruled out: an effect of Interpretive Superiority.

This intricate set of assumptions has somewhat puzzling and not always welcome consequences, four of which are discussed below.

1. G's account of Interpretive Superiority subsumes ordinary superiority effects and effectively renders the MLC-based account from chapter 1 superfluous. The idea is that a wh-phrase can never move if its sister is a Q-morpheme (if it does, the structure is uninterpretable at the LF-semantics interface). Since Q-morphemes always attach to lower wh-phrases in English, it is ruled out that they ever move.[14]

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[13] Recall that Interpretive Superiority is a label for the loss of PL readings that results from fronting a wh-object across a wh-subject.

[14] Remember that the present account also rules out the core example of chapter 1, namely *??What did who buy?*, which is otherwise generated by syntax.

2. I am not convinced that G reliably derives the Interpretive Superiority effect for Serbo-Croatian. According to her analysis, the Interpretive Superiority arises in Serbo-Croatian in the configuration in (II): Q attaches to TP, from which position it moves to adjoin to the interrogative C. The wh-object *what* moves to SpecFocP (see chapter 1, section 5.3). By G's assumption (ii), *what* contributes its Hamblin-style semantics in the derived position, i.e., in SpecFocP, its trace being interpreted as a run-of-the-mill bound individual variable.

(II)  $[_{CP}$ C-Q$_j$ $[_{FocP}$ what$_i$ $[_{QP}$ t$_j$ $[_{TP}$ who $[_{VP}$ bought t$_i$]]]]]

Now, (II) is, for purposes of determining the SP/PL reading, configurationally indistinguishable from the canonical structure in (III).

(III)  $[_{CP}$ C-Q$_j$ $[_{FocP}$ who$_i$ $[_{TP}$ t$_i$ $[_{VP}$ bought $[_{QP}$ t$_j$ what]]]]]

In both cases, the complement of the trace of Q contains only one of the two wh-phrases: in (II) the wh-subject, in (III) the wh-object. In both configurations, a PL reading is generated: the meaning of (II) happens to be expressed by G's (84a) the meaning of (III) corresponds to G's (84b).

(84)  a.  {Who bought the cheese?, Who bought the wine?, Who bought the cake?}

   b.  {What did John buy?, What did Mary buy?, What did Sue buy?}

Notice that this problem probably does not arise for Japanese, in which wh-phrases scramble (rather than wh-move or focus-move). If scrambling targets an area within the TP, the Interpretive Superiority indeed arises: both wh-phrases remain in the scope of the trace of Q, giving rise to SP readings.

(IV)  $[_{CP}$ C-Q$_j$ $[_{QP}$ t$_j$ $[_{TP}$ what$_i$ $[_{TP}$ who $[_{VP}$ bought t$_i$]]]]]

Interestingly, this problem that goes unnoticed by G gets – as though by the way – solved in Chapter 5, where G argues that the clausal Q-morpheme is not specified to select for TP, but rather FocP.

In such a case, the situation in Serbo-Croatian is parallel to the one in Japanese and the effect of Interpretive Superiority is preserved. Unfortunately, as I will show later on, the assumption of FocP attachment leads to further problems (see the review of chapter 5).

3. It is unclear how single wh-questions work in English. As it stands, the analysis predicts that wh-movement should be prohibited in this case, i.e., English is predicted to be wh-in-situ in single wh-questions, as illustrated in (V).

(V)  $[_{CP}$ C-$Q_i$ $[_{TP}$ John bought $[_{QP}$ $t_i$ what$]]]$

Wh-movement leads to uninterpretability: the moving wh-phrase leaves behind an individual variable—a semantic object which cannot function as an argument of the choice functional variable—the denotation of the stranded (trace of) Q. Even if TP-attachment of the English Q-morpheme were allowed in single wh-questions, it would not solve the problem: because the wh-phrase has vacated the TP, the TP has only a single denotation and therefore cannot function as argument to a choice function.

There are two imaginable ways out of this problem. One option is to allow for the interpretation of the lower copy of the wh-phrase; the other option is not to use any Q-morpheme whatsoever (which would require a different, essentially vacuous, semantics for the interrogative $C^0$). But if either of these strategies is used, the question arises why they cannot be applied in MQs as well. That would, of course, dramatically change the whole story presented so far.

4. It is unclear how SP readings are derived in languages like Serbo-Croatian in canonical (superiority satisfying) MQs. Even if the Q-morpheme attaches to TP (a configuration designed to derive the SP reading), movement of the higher wh-phrase is unavoidable. Since, for independent reasons, this movement targets SpecFocP—a position above the trace of the Q-morpheme, only a PL reading is derived. Again, solutions exist (mainly the FocP-attachment of the Q-morpheme adopted in chapter 5) but lead to further problems.

In section 6, G deals with the observation that in languages that do not allow SP readings in MQs with wh-pronouns (*who, what,* etc.), these readings are available in MQs with complex wh-phrases (e.g., *which student*). MQs with some type of complex wh-phrases, particularly Russian *kotoryj*-phrases (as opposed to *kakoj*-phrases), are

even claimed to rule out PL readings. According to G, wh-determiners (such as *which*) denote choice function variables.[15] If these choice function variables get unselectively bound by an interrogative $C^0$ (as described in section 2 of the present chapter), the answerhood conditions derived in this way are identical to those derived by using a Q which scopes over both wh-phrases: the denotation is one of a set of propositions, which, in Hagstrom's system, corresponds to a SP reading.

This analysis calls for further clarification. In particular, it is not completely clear how it should be incorporated in the general Hagstrom-style analysis proposed in sections 3 and 4. I discuss two problems in some detail below.

1. G assumes that if the Q-morpheme is present in a MQ with complex wh-phrases, "it can apply vacuously to the output of the choice function application that takes place within the wh-phrase" (p. 53). Yet, this is not so straightforward: the output of a choice function is an individual (from a type-theoretic perspective); this individual can hardly be selected by another choice function for type-mismatch reasons.[16]

A possible solution to this problem is to assume Hamblin semantics "all the way" (cf. Hamblin 1973, Kratzer and Shimoyama 2002)—in that case, the denotation of every node is contained in a set. This means that the application of a choice function (say, at the wh-determiner level) does not yield an individual but rather a singleton set containing that individual. Then an additional choice function (say, the Q-morpheme) could indeed apply vacuously, as assumed by G (it would pick the single individual from that set and return a singleton set containing that very individual). Unfortunately, adopting Hamblin semantics "all the way" would require a complete revision of Hagstrom's analysis, which is crucially based on the combination of Hamblin semantics and ordinary semantics in a single system; his Flexible Functional Application—combining ordinary functional application with Hamblin-style "pointwise" functional application—lies at the heart of that system. Moreover, G would lose the explanation of the

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[15] Remember that the same semantics is assigned to the trace of the Q-morpheme.

[16] In fact, in section 5, this very mismatch is held responsible for the impossibility of attaching the Q-morpheme to the trace of a structurally lower wh-phrase in English MQs: if it is impossible there, why is it possible here?

unacceptability of *??What did who buy?* If all denotations are collected in a set, there is no reason why the Q-morpheme could not attach to the trace of *what.* If this happened, the resulting denotation would correspond to Hagstrom's SP reading for such a question (I will not go into proving this here).

2. Even if the cooccurrence of wh-determiner-introduced choice functions and Q-morphemes was solved in some way, the denotation of the interrogative $C^0$ requires a revision: on the one hand, $C^0$ would have to take the fronted Q-morpheme as its argument (cf. fn. 19, p. 38) and at the same time it would have to unselectively bind all the remaining choice functions. This is certainly technically possible, however, if the analysis proposed in sections 3 and 4 is to be upheld, this would mean an ambiguous interrogative $C^0$—one for MQs with wh-pronouns and another one for MQs with complex wh-phrases.

Section 7 deals with the observation in (106a): if the lower wh-phrase in an English MQ is separated from its scope-position by a non-wh-island boundary, the MQ only has a SP reading.[17]

(106)   a.   Which linguist will be offended if we invite which
              philosopher?                                      *PL/SP

G notes in this case, the Q-morpheme cannot be base-generated at the lower wh-phrase because it could not escape the island to reach the scope position in the matrix CP area. G proposes to generate the Q-morpheme directly in the sister position of the interrogative C. In this case, it does not bind a trace (not having undergone any movement) but rather an empty choice-functional resumptive pronoun. G is not specific about the position of the resumptive pronoun but it seems to follow from the logic of her proposal that it is generated as the sister of the wh-phrase within the island. If I understand the proposal correctly, the high base-generation of the Q-morpheme is held responsible for the lack of PL readings (similarly as clausal attachment in ordinary MQs, see above).

As it stands, it is unclear that G's proposal derives the desired lack of PL readings. If I understand the proposal correctly (also taking into

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[17] Cf. Dayal (2002), who argues that any finite non-wh-clause boundary triggers the loss of PL readings. G's informants agree with Dayal only partly: finite clause boundaries without an overt complementizer are claimed to preserve PL readings.

account the assumptions introduced in chapter 1, section 5.3), a sentence like (106b) receives the LF in (VI): the Q-morpheme is base-generated as the sister of $C^0$ and binds the resumptive pronoun in the island—the sister of the wh-pronoun *who*.

(106) b.   Who will be offended if we invite who?                    *PL/SP

 (VI)   [$_{CP}$ C-Q$_i$ [$_{FocP}$ who [$_{FinP}$ will [$_{TP}$ be [$_{VP}$ offended [$_{CP}$ if [$_{TP}$ we [$_{VP}$ invite [res-pron$_i$ who]]]]]]]]]

   G's analysis from sections 3 and 4 assigns (VI) the denotation of a PL reading rather than the desired SP reading. The reason is that only the lower wh-phrase is in the scope of the choice functional resumptive pronoun—the semantic correlate of the trace after the movement of Q.[18] The only way to achieve the SP reading is to place the choice-functional variable above all the wh-phrases, for instance as the sister of FocP. Yet, once this is made possible, it becomes unclear how SP readings are to be prohibited in the core case such as *Who bought what?*

3.3. Chapter 3: Multiple Interrogatives and Ellipsis

In this chapter G concentrates on sluicing and multiple sluicing (Takahashi 1994) in order to provide further support to some of her conclusions. Her treatment of sluicing is by and large conservative: she assumes that it is TP ellipsis (Ross 1969, Merchant 2001, Stjepanović 2003) and provides convincing arguments that the same holds of multiple sluicing in Russian. Where G differs slightly from the canon is the issue of licensing sluicing. While most scholars tie sluicing to wh-features in one way or another, G suggests at the end of section 3 that sluicing is universally licensed by contrastive focus (CF) features.[19] Concentrating mainly on Slavic, she brings under a single umbrella wh-movement and contrastive focus (CF) movement (as has often

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[18] Notice that the scope of the quantificational part of the Q-morpheme plays no role in determining the SP/PL reading—only the scope/position of the non-quantificational/variable part of the Q-morpheme does. See also footnote 12 of this review.

[19] As acknowledged by G, the idea/observation that focus can license sluicing is not new, see e.g. van Craenenbroeck and Lipták (2005).

been done since Stjepanović 1998 and Stepanov 1998). In Slavic, both are supposed to be subject to overt fronting to the left periphery, whether they target one or more categories, i.e., single or multiple wh/CF-movement. The parallel between wh-phrases and CF is further strengthened by the fact that not only MQs but also multiple CF constructions require a PL reading. Consequently, multiple CF constructions are only felicitous if they are part of a list of propositions, each containing an instance of multiple focus (*Santa Claus gave Ivan a bike, he gave Lena a book, he gave Sasha a watch,…*).

It should be noted that G's multiple CF constructions are highly reminiscent of contrastive topic-focus (CT-F) constructions (Büring 1997, 2003, and much subsequent literature). A comparison between these two types of constructions (if they constitute separate types at all) would have been beneficial.

G's proposal that sluicing is universally licensed by CF-features would likewise deserve more discussion. It would have been interesting to see an explicit comparison with the recent proposal of van Craenenbroeck and Lipták (2013) (available since 2009 as a manuscript), who argue for tying sluicing universally to wh-syntax rather than to focus-syntax.[20] Are these two proposals distinguishable? What are the crucial facts?

The cross-linguistic distribution of PL and SP readings laid out in chapter 2 receives further support from data involving multiple sluicing, presented in section 4 of the present chapter. G shows that in languages (e.g., Russian) that only allow for PL readings in the basic case (MQs with wh-pronouns), multiple sluicing is only possible if the antecedent of the ellipsis supports the PL reading. If it only supports the SP reading, multiple sluicing is ruled out. The relevant contrast is illustrated in (150) vs. (151).

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[20] Cf. van Craenenbroeck and Lipták's *Wh/sluicing correlation:* "The syntactic features that the [E]-feature has to check in a language L are identical to the strong features a wh-phrase has to check in a regular constituent question in L" (2013: 515).

(150)  Každyj      priglasil  kogo-to   na  tanec,  no  ja  ne
        everyone  invited   someone  to   dance  but  I    not

        pomnju    kto   kogo.
        remember  who  whom

        'Everyone invited someone to a dance but I don't remember who whom.'

(151)  <sup>??</sup>Kto-to     priglasil  kogo-to   na  tanec,  no  ja  ne
         someone   invited   someone  to   dance  but  I   not

        pomnju    kto   kogo.
        remember  who  whom

        'Someone invited someone to a dance but I don't remember who whom.'

In languages that allow for the SP reading (Serbo-Croatian), multiple sluicing is supported even in a case like (160):

(160)  Neko      je video nekog,    ali  ne   znam  ko   koga.
        somebody  is seen  somebody  but  not  know  who  whom

        'Somebody saw someone, but I don't know who whom.'

    In section 5 G proposes a new solution to Stjepanović's (2003) observation that multiple sluicing in questions exhibits superiority effects even where corresponding questions without sluicing do not. G extends Stjepanović's (2003) observation to Russian but adds an important new piece to the puzzle: while the contrast between (164b) and (164c) suggests the presence of superiority effects, the one between (171b) and (171c) shows that something else must be at stake.

(164)  a.  Speaker A:  Každyj     priglasil  kogo-to   na   tanec.
                        everyone  invited   someone  to   dance

                        'Everyone invited someone to a dance.'

      b.  Speaker B:  Kto   kogo?
                        who  whom

      c.  Speaker B:  *Kogo   kto?
                         whom  who

(171)  a.  Speaker A:  Každogo       kto-to    priglasil      na    tanec.
                       everyone$_{ACC}$  invited   someone$_{NOM}$  to    dance

     b.  Speaker B:  Kogo    kto?
                       whom    who

     c.  Speaker B:  *Kto     kogo?
                       who    whom

G proposes that the above contrasts are to be captured by a scope parallelism constraint (Fiengo and May 1994, Fox and Lasnik 2003)—"variables in the elided and antecedent clauses [must] be bound from parallel positions" (p. 77)—in conjunction with the assumptions that (i) surface order in Russian maps to scope (e.g., Ionin 2002, Pereltsvaig 2006, Bailyn 2006) and (ii) "wh-words like *who* and *what* are quantifiers over individuals" (p. 77). G also discusses the possibility of extending the account to Stjepanović's (2003) Serbo-Croatian facts but finds that interfering factors make such extension difficult to evaluate. More research is needed. G argues that the existence of the parallelism phenomenon can be used as yet another argument for the presence of syntactic structure in the ellipsis site.

It is unfortunate that G's solution to the puzzle is not compatible with the question semantics developed in chapter 2. There, G proposes that wh-phrases are non-quantificational in nature: either they denote sets of individuals (sections 3–5 of chapter 2) or sets of individuals selected by a choice-functional variable (sections 2 and 6 of chapter 2). Thus, G's assumption "that wh-words like *who* and *what* are quantifiers over individuals" (p. 77), used to explain the parallelism phenomenon in multiple sluicing, is somewhat ad hoc. One could wonder whether it is possible to make the two apparently contradictory analyses compatible. A sort of scopal asymmetry between two wh-phrases in MQs is indeed implicitly present in the main proposal (sections 3–5 of chapter 2). As Hagstrom points out (1998: 152), there is a sense in which the wh-phrase which is not in the scope of (the base-position of) the Q-morpheme behaves as a universal quantifier taking wide scope with respect to the wh-phrase which is in the scope of the Q-morpheme. Whether this indirect scope asymmetry could somehow be utilized in the explanation of the parallelism phenomenon discussed by G is unclear. Finally, let me point out that no scope asymmetry, whether "direct or indirect," is present in G's account of MQs with

complex wh-phrases with SP readings (section 6 of chapter 2), where both wh-phrases have the same scope—determined by the interrogative $C^0$. This makes an extension of G's parallelism analysis to MQs with SP readings quite difficult to imagine.

3.4. Chapter 4: Multiple Left-Branch Extraction

In this chapter, G deals with issues related to left-branch extraction (LBE). She adopts Boeckx and Grohmann's (2004) analysis of complex wh-phrases as inherent topics and their movement as an instance of optional scrambling, or technically, movement to SpecTopP.[21] G then goes on to propose that LBE, or more particularly extraction of wh-determiners out of complex wh-phrases, is an instance of head movement/adjunction to $Top^0$.

This proposal offers an explanation for the first puzzle discussed by G: the ban on multiple LBE.[22] This ban falls out as an instance of the Head Movement Constraint, which in turn is an instance of the Minimal Link Condition of Chomsky (1995) according to G: if one wh-determiner has adjoined to a (lower) $Top^0$, "the higher $Top^0$ cannot Attract (or Agree with) [a wh-determiner] over the intervening [wh-determiner] adjoined to the lower $Top^0$" (p. 88).

The idea that the restriction on multiple LBE is a derivational one—namely the MLC—receives support from the fact that it does not get repaired by (multiple) sluicing. This observation is, to the best of my knowledge, novel, and deserves an illustration: while multiple sluicing is allowed with wh-phrase remnants, shown in (200), this is not possible with wh-determiner remnants, shown in (199).

(199) *Včera     odin acter kupil    mašinu, no ja ne
        yesterday one  actor bought  car        but I  not

        pomnju     naskol'ko bogatyj naskol'ko doroguju.
        remember   how        rich      how         expensive

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[21] The idea that wh-phrases undergo scrambling (or topic movement) is not new in the literature on Slavic wh-questions. It has previously been defended at least by Scott (2003) for Russian and Jaeger (2004) for Bulgarian. These authors are not acknowledged by G.

[22] G concentrates on Russian data but refers to Fernández-Salgueiro 2006 for the original observations on Serbo-Croatian.

'Yesterday, an actor bought a car but I don't remember how rich an actor bought how expensive a car.'

(200)  Včera       odin   acter  kupil    mašinu, no  ja  ne
       yesterday  one    actor  bought   car      but  I   not

       pomnju     naskol'ko bogatyj  acter  naskol'ko doroguju
       remember   how       rich     actor  how       expensive

       mašinu.
       car

       'Yesterday, an actor bought a car but I don't remember how rich an actor bought how expensive a car.'

Though elegant and predictive, G's account of the ban on multiple LBE runs the danger of ruling out multiple wh-phrase movement, too. In particular, why is it that the wh-phrase in the lower SpecTopP does not intervene for purposes of Agree between the higher $Top^0$ and the yet-to-move wh-phrase?

In the rest of the chapter (section 5) G seeks to provide further evidence for the idea that LBE is an instance of head movement. She argues that it can explain Merchant's (2001) observation that while sluicing repairs violations of strong islands and of LBE in English, it cannot repair the combination of these two violations; see (212).

(212)  a.  A: Every father will be upset if his daughter damages a rather expensive car.

       b.  B: [??]Do you know how expensive?

G proposes that the problem arises from moving a head (as compared to a phrase) from an island. In a theory like Chomsky's (1973), an island violation is marked in the representation of the syntactic structure. The violation marker—a star—is then uninterpretable at the PF interface. G proposes that it is always the copy left after movement that bears the star. Also, she proposes that heads (as opposed to phrases) are "too small" to bear more than a single star. If a head escapes two islands, one star gets placed on the lower copy but the second star must get placed on the higher copy in the movement chain. While the lower copy gets elided by sluicing, the star on the higher copy survives the deletion and leads to a crash at the

interface. The general prediction of this proposal is that while sluicing fed by phrasal movement can repair multiple islands, sluicing fed by head movement (such as LBE) can only repair a single island violation. G shows that this prediction is borne out not only for English (where LBE out of islands is a case in point) but also for Russian, where sluicing won't repair LBE out of two islands:[23]

(224) d. [??]Ivan  skazal  čto  Maša  rasstroilas' potomu čto  jejo
      Ivan  said    that Maša  got-upset  because      her

      načaljnik  zaprosi    podrobnyj otčet,  no    ja    ne
      boss       asked-for  detailed    report but  I     not

      znaju   naskoljko  podrobnyj.
      know    how         detailed

       'Ivan said that Maša got upset because her boss asked for a detailed report but I don't know how detailed (a report).'

One of the assumptions that G relies on in her analysis of LBE as head movement is that "a head cannot be extracted out of a phase because it cannot go through a Specifier position, designated for phrasal categories" (p. 101). This assumption is used for explaining why LBE is impossible in English: the adjectival head would have to go through the SpecDP-escape hatch (assuming that DP is a phase in English), which, however is not possible.[24] This raises two questions.

First, what prohibits the extraction—descriptively LBE—of determiners in English? The D head—the uncontroversial host of English determiners—already is at the edge of the DP phase and hence should be able to freely move out of the DP. Still, as noticed by G and many others, sentences like *Those I like flowers* (p. 102) are ungrammatical in English.

Second, if long distance questions are derived by subsequent movement through phase-edges, as standardly assumed within the general theory adopted by G, LBE—being head movement—is predicted not to be able to happen long distance, i.e., (VII) is predicted to

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[23] For the sake of clarity: The relevant difference between English and Russian is that LBE itself is an island violation in the former but not in the latter.

[24] G adopts Abney's (1987) analysis of DPs, where adjectives select the NP and project the AdjP, which in turn is selected by D.

be unacceptable. At least in Czech, though, such examples are fully grammatical, as illustrated in (VIII).

(VII)  Kakuju    ty     xočeš',  čtoby  on   kupil  mašinu?
       which     you    want     that   he   buy    car

       'Which car do you want him to buy?'

(VIII) Kterého  Marie  chtěla,  aby   si    její  dcera    vzala
       which    Marie  wanted   that  REFL  her   daughter  married

       muže?
       man

       'Which man did Marie want her daughter to marry?'

3.5. Chapter 5: Acquisition of Multiple Interrogatives

In this chapter G examines the acquisition of syntactic and semantic aspects of MQs in three typologically different languages: in a single wh-fronting language (English), in a multiple wh-fronting language (Russian), and in a wh-in-situ language (Malayalam).
    G's theoretical questions are the following:

(246)  a.  At what age do children acquire language-specific syntactic
           properties of multiple interrogatives?

       b.  At what age do children acquire language-specific semantic
           properties of multiple interrogatives?

       c.  How do they come to know those properties, given the
           nature of the input?[25]

G devised a number of production experiments designed to elicit the production of MQs with wh-pronouns. Two types of scenarios were used: one that elicited MQs with PL readings and the other that elicited MQs with SP readings. The subjects were children around 5 years old and each experiment included adult controls (whose results I

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[25] Based on a corpus search in the CHILDES database, G concludes that MQs are very rare in the input, at least as compared to single wh-questions. Out of roughly 700 wh-questions of child-directed Russian speech, only 1 was a MQ. Out of roughly 5000 wh-questions of child-directed English speech, only 3 were MQs.

do not explicitly report on here). G found that all children produce MQs in scenarios supporting PL readings (in English in 32%, in Russian in 38%, and in Malayalam in 25% of the cases). In scenarios supporting SP readings, on the other hand, only Malayalam children produced MQs (in 14% of the cases). English and Russian children produced no MQs in this context, corroborating the claims in the literature that MQs in these languages only have PL readings.

Another variable that G was interested in in her experiments was wh-movement. She found that English-speaking children make exclusive use of single wh-movement in MQs – their behavior is completely adult-like. Russian-speaking children, on the other hand, diverge from adult behavior in that besides using multiple wh-movement, they also employ single wh-movement (in two of her experiments on Russian, the proportion was 15% and 18% of the MQs produced).

It is a pity that G provides only a few examples of the elicited MQs. The few examples that she does provide look very interesting, e.g., (255b) for Russian:

(255)  b.  Kto vse sprjatali čto? (lit. 'Who all hid what?')

Is a question like (255b) grammatical in adult Russian? Is there a chance that *kto* was at least in some cases *éto* and that (255b) is a question like (IX), which is, according to my informant (Lena Karvovskaya), fully grammatical?

 (IX)   Éto kto prišel?

Unfortunately, no examples of questions produced by Malayalam-speaking children are provided. It would have been interesting to see how the questions looked syntactically. Did they exhibit true wh-in-situ? How large a proportion exhibited the—in Malayalam optional—scrambling of the wh-phrases? In the discussion (section 5), G makes an implicit claim that all or at least the majority of the Malayalam MQs produced in her experiment involved plain wh-in-situ. Yet, one can wonder why the syntactic results are not explicitly reported.

Let us now consider G's discussion of the results. Concerning the syntactic aspect of her experiment, G argues that it is important to hold apart the wh-movement parameter in single wh-questions and in

MQs. As for the former, it has been shown that in English the wh-movement parameter is set to the wh-movement value from the very onset of wh-question production, particularly 1;8 (Clahsen, Kursawe, and Penke 1995, among others). To the extent that wh-fronting in English MQs is the same kind of process as wh-fronting in English single wh-questions, G's results are therefore consistent with the results of these previous studies—there was no single case of multiple wh-in-situ (or multiple wh-fronting) in the results. As for the wh-movement parameter for lower wh-phrases in MQs, G proposes that the default setting is leaving the wh-phrase in situ. This is apparent especially in Russian, where the lower-wh-in-situ pattern was exhibited in nearly the fifth of MQ occurrences, despite the fact that the pattern is absent in the input. G asks herself two questions: First, why is it the case that Russian-speaking children's grammar allows for wh-in-situ in MQs? Second, in which way is multiple wh-fronting eventually acquired, given the scarcity of positive evidence? Concerning the first question, it is possible that Russian-speaking children overgeneralize the input from MQs with complex wh-phrases, in which Russian allows for wh-in-situ. Concerning the second question, G hypothesizes that Russian children tie wh-phrases to contrastive foci (CF) and use the evidence from CF fronting to indirectly acquire the knowledge about the syntactic behavior of wh-phrases.[26]

Concerning the semantic aspect of her experiments, the question is how children know whether MQs in their language only express PL readings (English and Russian) or both PL and SP readings (Malayalam)? In order to answer this question, G modifies her proposal from chapter 2 slightly (yet, without making it explicit that it is a modification). She assumes that SP readings are derived by endowing the Q-morpheme with the capacity to select FocP. More particularly, the assumption seems to be that whenever a language

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[26] G relies on the assumption that "[c]ontrastively focused R-expressions cannot remain in situ in adult Slavic…" (p. 133). This claim is too strong and certainly false at least for Czech—the position of Czech contrastive foci is not restricted by any specific constraints, as they can appear wherever ordinary foci can, i.e., also in situ. At the same time, however, it also holds that the lower wh-pronoun in Slavic MQs can sometimes stay in situ (see Šimík 2010 for Czech and Mišmaš to appear for Slovenian), suggesting that the correlation between the syntactic behavior of wh-phrases and contrastive foci still might hold.

projects a FocP in the left periphery of clauses, the Q-morpheme in that language is capable of selecting it. Concerning the issue of acquisition and learnability, the idea is that evidence for Foc(P) is a trigger for the knowledge that FocP attachment of the Q-morpheme is possible.[27] This in turn leads to the knowledge that SP readings of MQs are available. The hypothesis—yet to be tested—is that the evidence for Foc(P) is available from relatively early on in the acquisition in the form of focus morphemes (e.g., in Malayalam or Japanese) or in the form of (contrastive) focus fronting to a position different than the generic SpecCP (e.g., in Serbo-Croatian)—e.g., focus fronting to a position below an overt complementizer.

G's modification of the derivation of SP readings by attaching the Q-morpheme to FocP rather than TP has some welcome and some problematic consequences. One welcome consequence is that G is now capable of actually deriving SP readings in languages like Serbo-Croatian (see the discussion of chapter 2). Another interesting and rather positive consequence is that while in chapter 2, the (non-)existence of SP readings boiled down to a lexical (and hence underivable) specification of the Q-morpheme's selectional properties, now this specification is derived from an independent parameter—the (non-)existence of a Foc projection in that language.[28] In that sense, the modification proposed in this chapter makes G's proposal more constrained and predictive. Unfortunately, this modification turns out to be too strong in some cases. For instance, in section 5.3 of chapter 1 it was proposed that even English has the Foc projection. If it is indeed the case, SP readings should be available in English MQs, contrary to fact. Another problem is with Russian. G's claim is that Russian exhibits obligatory (contrastive) focus fronting to a position other than SpecCP (on p. 70 and later on p. 151 she concludes, together with Izvorski 1993 and Stepanov 1998, that Russian even has two focus positions/projections independent of C); in that respect, Russian does not differ from Serbo-Croatian. According to G's reasoning, Russian chil-

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[27] The idea that the Q-morpheme somehow "associates with focus" is not new. See Šimík 2010 for an independent argument supporting a similar conclusion.

[28] The PL reading of MQs is taken to be the default and requires no positive evidence to be acquired. This idea is, according to G, supported by her results from the Malayalam experiment, where PL questions were produced a little more frequently than SP questions. Yet, as noted by G herself, the difference was not found to be statistically significant.

dren should take this as evidence of the existence of Foc, which should in turn lead to FocP-attachment of the Q-morpheme—making SP readings available—again, contrary to fact.

3.6. Chapter 6: Acquiring Contrastive Focus and Multiple Interrogatives

In this chapter G explores the hypothesis that wh-phrases are inherently endowed with the property of contrastive focus (CF). Given the poverty of stimulus in the acquisition of MQs, G argues that children draw inferences from CF constructions to learn things about MQs.

The notion of contrastive focus (CF) adopted by G matches the notion of identificational focus as defined by É. Kiss (1998). For her purposes, G simplifies the definition somewhat:

(272)   Contrastive focus identifies an exhaustive subset of the set of
        contextually or situationally given elements for which the
        predicate phrase holds.

G conducted a production experiment on Russian and English, designed to elicit utterances containing a CF. Unsurprisingly, all English-speaking participants exclusively used CF in situ. There was no single case of CF fronting. Russian-speaking participants, on the other hand, mostly used CF fronting. Children used CF-fronting 61% of the time (adult controls: 75%) and CF-in-situ 33% of the time (adult controls: 18%).

G takes the fact that English-speaking children exhibit adult-like behavior with respect to the syntax of CF to indicate that leaving CF in situ represents the default parameter setting. She hypothesizes that this setting might be related to the syntax of information/presentational focus, which is typically left unmarked cross-linguistically. Since CF fronting requires positive evidence, Russian-speaking children exhibit a slight delay in its acquisition. This is also expected provided the somewhat confusing input—even adults are not fully consistent in applying CF fronting. The problem of why CF fronting is not applied obligatorily in Russian (as the wh-fronting/ CF-fronting parallelism makes us expect) is left open by G (though in fn. 5 on p. 161–62 she suggests that CF in these cases might be masked by verb-movement across the CF-fronted constituent). Nevertheless, G

concludes that the delayed acquisition of both multiple wh-fronting and CF-fronting in Russian further supports the wh-CF parallelism and suggests that the research which attributes wh-fronting to the CF-hood of wh-phrases (Stepanov 1998, Stjepanović 1998, Bošković 2002, among others) is on the right track.

4. Conclusion

There is no doubt that G's book is an important contribution to the discussion of the syntax-semantics interface of multiple wh-questions and can be placed alongside other important monographs on this topic—from Wachowicz 1974 and Engdahl 1986, through Comorovski 1996 and Dayal 1996, to Hagstrom 1998, Ginzburg and Sag 2000, and Cable 2010. What I consider especially valuable are the parts where G discusses the interaction of multiple interrogation with sluicing (chapter 3) and left-branch extraction (chapter 4), and also G's pioneering investigations into the acquisition of multiple questions (chapter 5). These parts contain some new findings and generalizations that, if they get replicated by future research, will certainly become part of the empirical canon of wh-question-related phenomena. Also, they provide interesting new solutions to previously observed puzzles.

   This said, there are also a number of drawbacks. In some cases, it is doubtful that G's analysis actually works the way she claims it does (e.g., G's derivation of Interpretive Superiority effects in Serbo-Croatian in chapter 2). In others, the analysis calls for further elaboration and clarification (e.g., G's treatment of MQs with complex wh-phrases in chapter 2). Sometimes G makes predictions which are clearly problematic (e.g., the discussion in chapter 2 seems to predict that English single wh-questions should employ wh-in-situ). Last but not least, the book is not always consistent—G's claims sometimes contradict each other (e.g., chapter 1: English projects FocP vs. chapter 5: English does not project FocP).

5. Appendix: Minor Issues

p. 29,  example (64b): PL should be marked as ungrammatical

p. 50,  line 4 of the last paragraph: "…a wh-phrase merged with the higher wh-phrase…" should be "…a Q-morpheme merged with the higher wh-phrase…"

p. 124, paragraph 2 of section 4.2: "English-speaking children were tested in the United States (College Park, Maryland) and Russian-speaking children were tested in the city of Voronezh, Russia." This sentence is probably copied and pasted from section 4.1. In Experiment 2, described in section 4.2, English was not tested at all.

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