ON 'MULTIPLE WH-FRONTING'

Review of Cedric Boeckx & Kleanthes K. Grohmann (eds): *Multiple WH-Fronting*
Amsterdam: Benjamins 2003

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1 Terminological background

Quantification in generative syntax has been viewed as a special case of binding since May (1977). In order to bind a certain variable, the quantifier has to c-command and precede it. It is therefore assumed that quantifiers are moved to the left periphery of the clause (recently called the C-domain) by a rule called Quantifier Raising (QR), at LF:

(1) $[_{CP}\ldots Q_i \ldots\ldots\ldots [_{IP}\ldots [_{VP} \ldots\ldots\ldots\ldots\ldots x_i\ ]]]$

WH-questions also involve quantification. It is generally accepted that there is an abstract interrogative quantifier Q in the C-domain of each interrogative clause that binds a *wh*-variable within that clause. Whether the Q quantifier overtly attracts to the C-domain the *wh*-argument that it binds or not is subject to cross-linguistic variation. In the English type of languages, *WH-movement* can only move one *wh*-word in overt syntax:

ENGLISH WH-MOVEMENT
(2a) [$_{CP}$Which film did [$_{AGRsP}$ you see in the movie]]?
(2b) WHx [Film (x), [Saw (you x in the movie)]
'for which x , x a film, you saw x in the movie'

In other languages, WH-quantification has no overt reflex in syntax, *wh*-words remain in their original, clause-internal position. These are the so-called *WH-in-situ* languages. It is assumed that WH-quantification here is "vacuous":

CHINESE WH-IN-SITU
(3) [$_{CP}$ Q [$_{AGRsP}$Shei mai-le shenme?]]
who buy-ASP what
'Who bought what?'

The various WH-strategies employed cross-linguistically can be best studied when there is more than one *wh*-item present in the clause. If the ordering of *wh*-words is restricted (i.e. they cannot be used in any order), we speak about Superiority effects (Chomsky 1973). In languages that exhibit Superiority at all, this phenomenon is understood as the highest *wh*-item c-commanding the other *wh*-items in their original position:

BULGARIAN WH-FRONTING
(4a) [$_{CP}$ Koj kakvo$_k$ [$_{VP}$ kupuva t_j t_k]]?
who what bought
'Who bought what?'

(4b) *[$_{CP}$ Kakvo$_k$ koj [$_{VP}$ kupuva t_j t_k]]?
what who bought
'the same'

There are languages that do not show Superiority Effects in Multiple WH-questions at all. In such languages, multiple *wh*-words are moved as a cluster in one single step, without creating any hierarchical ordering among *wh*-words. This is an indication that c-command is not the only possible ordering force in Multiple WH-questions.

Superiority arises only when two or more abstract quantifiers interact in such a way that they create relative scope with respect to each other by forming one single n-ary quantifier. This is called *absorptive quantification*. *Resumptive quantification,* on the other hand, arises

when two or more *identical* quantifiers form a pair or n-tuple of quantifiers (May 1989). Here the quantifiers can appear in any order because they do not create relative scope.[1]

Absorptive and resumptive quantification show parametric variation in Multiple WH-questions across languages. First of all, true *WH-movement* is distinguished from *WH-fronting* in the literature. The former moves only one *wh*-item overtly to the leftmost position ([Spec,CP]) of the clause in order to check its [+wh] feature; the other *wh*-elements remain in their original position:

ENGLISH WH-MOVEMENT
(5) [$_{CP}$*Who* [$_{IP}$ saw *what*]]?
$Q_i x Q_j y$ [Saw (x, y)]
'for which x is there a y such that x saw y'

(6) *What saw who?
'the same'

Multiple WH-fronting, on the other hand, moves all *wh*-words somewhere to the C-domain in overt syntax. In the Bulgarian example in (4a,b) above, it is only the topmost *wh*-item that targets the [Spec,CP] position to check out its [+wh] feature, the remaining *wh*-words target a lower position. Accordingly, in Bulgarian, Superiority is observed only between the first and the second *wh*-words. By contrast, in Serbo-Croatian, any number of *wh*-items can be fronted to the C-domain without creating any Superiority effect:

[1] We speak about *absorptive quantification* when the ordering of the quantifiers is fixed. The difference between the two types of quantification is illustrated in (i-ii).
ABSORPTIVE QUANTIFICATION
(i) Every man danced with some woman.
$\forall x \exists y$[Danced (x, y)]
'for every x there is a y such that x danced with y'
RESUMPTIVE QUANTIFICATION
(ii) Two detectives solved two crimes.
$TWO_1 TWO_2$ <x,y> [Solved (x, y)]
'there are two pairs <x, y>, such that x solved y'
In (ii), neither occurrence of the numerical quantifier *'two'* takes scope over the other. Their quantificational force being equal, the participants of resumptive quantification never create relative scope. Instead, they generate a set of pairs (or n-tuples) of the potential variables they can bind. If the sets of the quantified items are both singletons, we get one single pair. Thus, the single pair (SP) reading is just a subcase of the pair-list (PR) reading.

SERBO-CROATIAN WH-FRONTING[2]

(7) *Ko* *šta* kupuje?
who what buys
Q^{i}_{j} .... Q^{i}_{j} <x,y> [Buy (x, y)]
'Who buys what?'

(8) *Šta* *ko* kupuje?
what who buys
'the same'

The mere existence of such languages shows that Multiple WH-question is a cover name for at least two radically distinct types of quantification, underlying two different types of multiple wh-operations.

2 The typology of Multiple WH-questions

The eleven studies published in *"Multiple WH-fronting"* (eds: Kleanthes Grohman and Cedrix Boecks. Amsterdam: Benjamins 2005) reviewed here aim to show whether Multiple WH-questions in a given language involve absorptive quantification, resumptive quantification, both of them or neither of them. The proposed analyses of Multiple WH-questions vary from one language to another accordingly. When Multiple WH-questions show Superiority effects, we are dealing absorptive quantification. When no relative ordering of the *wh*-words can be diagnosed, we are more likely to get pair-list (PL) reading or single pair (SP) reading, both signalling resumptive quantification. This is referred to as *WH-fronting*. Notice that *Multiple WH-in-situ* languages exhibit vacuous quantification.

Although German is a V-second language, it resembles Serbo-Croatian in that it allows multiple *wh*-items to occur in any order without creating any Superiority effect. In V-second Yiddish, in turn, multiple *wh*-items only create Superiority effects if the *wh*-words are non-D-linked. Persian demonstrates two basic WH-strategies. Optional *Multiple WH-fronting* always gives rise to Superiority. *Multiple WH-in-situ*, on the other hand, does not create such ordering restrictions. Malagasy has Single WH-movement in addition to Multiple WH-

[2] Q^{i}_{j} ... Q^{i}_{j} refers to the resumptive pair quantifier.

fronting and Single and Multiple WH-in-situ. Japanese and Basque are two languages of the opposite extremes. While in head-final Japanese "anything goes", i.e. Superiority never arises, Basque requires a strict ordering of multiple *wh*-items in all contexts.

Three main syntactic analyses have been put forward in the literature to handle Multiple WH-questions. Rudin (1988) proposes that *wh*-items should be multiply adjoined to IP. In the theory of Richards (1997) and Pesetsky (2000), *wh*-words occupy the specifier positions of a multi-spec CP. The Split CP account of Rizzi (1997) offers several functional projections on the left periphery (C-domain) of interrogative clauses, where all *wh*-items can be comfortably accommodated. The three alternative theories are represented in this book by various authors. Given that each of them can be easily paraphrased in the other two systems, choosing one over the other is not crucial for the present discussion.

The present review follows a thematic, rather than an alphabetical order. As Bošković' work is central in understanding the syntax and semantics of Multiple WH-questions, his proposal will be introduced first; then we proceed from the better-known cases to some more "exciting" languages.

2.1 On multiple WH-fronting (MWF) languages (Ž. Bošković)

Bošković proposes that Multiple WH-Fronting (MWF) languages do not constitute a homogeneous class. In Bulgarian, only the first *wh*-word performs true *WH-movement* to [Spec, CP] in order to check its [+wh] feature. The rest of the *wh*-words do not have a [+wh] feature and therefore they are attracted *via WH-fronting* to a lower position on the left periphery (C-domain), where they check their [+focus] feature. Depending on the theoretical framework, they may be adjoined to IP (Rudin 1988) or they may target the lower Spec of a multi-spec CP (Richards 1997, Pesetsky 2000), or [Spec, FocP], as in Rizzi (1997).

In Bulgarian, if there are two or more *wh*-words, Superiority is shown only with respect to the first and second. The ordering of the second and third, etc. *wh*-element is totally free. Serbo-Croatian offers a different scenario. Multiple *WH-fronting* here occurs as an instance of focalisation. The differences can be best demonstrated by the different ordering of multiple *wh*-words in the two languages:

BULGARIAN
(9a) *Koj kakvo* kupuva?
who what bought
'Who bought what?'

(9b) **Kakvo koj* kupuva?
what who bought
'the same?'

SERBO-CROATIAN
(10a) *Ko šta* kupuje?
who what buys
'Who buys what?'

(10b) *Šta ko* kupuje?
what who buys
'the same'

In MWF languages normally showing Superiority effects (Bulgarian), the differences get neutralized as soon as D-linked *wh*-words are used (Čitko & Grohmann 2001):

BULGARIAN
(11a) *Koj čovek koja kniga* e kupil?
which man which book has bought
'Which man bought which book?'

(11b) *Koja kniga koj čovek* e kupil?
which book which man has bought
'Which book did which person buy?'

Serbo-Croatian matrix Multiple WH-interrogative clauses do not show Superiority effects, (10a,b), because focalisation is not sensitive to Superiority. Syntactically, such differences can be accounted for by the different targets for *wh*-words ([Spec, CP] vs. [Spec,FP]) in the two languages. This is captured by the Attract-1F vs. Attract-AllF operations in Bosković's analysis.

Having said all this, we can still observe Superiority effects in some well-defined contexts in Serbo-Croatian. Bosković calls them Anti-Superiority effects because they show up where they are not expected. These contexts include WH-relative clauses, Long distance WH-movement, *li*-questions, and WH-questions following topicalisation. As Bošković explains, Anti-Superiority in Serbo-Croatian is due to a special freezing effect on WH-quantifiers. This freezing effect is a subcase of the well-known ban on QR (Lasnik & Uriagereka 1988): once an operator has established an operator-variable chain, it cannot be moved any further. This is given in (12):

(12) Op in Op-variable chain cannot undergo further movement.

2.2 Multiple WH-movement and multiple sluicing (S. Stjepanović)

The author extends Bošković's theory to Multiple Sluicing in Serbo-Croatian. She deals with Superiority effects in sentences with the sluicing of multiple *wh*-words and she terms this phenomenon Multiple Sluicing. Serbo-Croatian does not normally exhibit Superiority effects in short distance WH-movement in matrix interrogatives with null C but it always does in Multiple Sluicing:

SERBO-CROATIAN

(13)	Neko	je	udario	nekog.
	someone	AUX	hit	someone

(13a)	Ko	koga?
	who	whom

(13b)	*Koga	ko?
	whom	who

Serbo-Croatian has two syntactic positions capable of licensing identificational focus (É. Kiss 1998) and *wh*-words. In *Single* and *Multiple WH-fronting*, even the uppermost *wh*-word moves for reasons other than checking the [+wh] feature. Given that the null C with a strong

[+wh] feature is inserted at LF (Bošković 1997, 1998, 2002), Serbo-Croatian does not have true WH-movement in matrix interrogative clauses with a null C at all. The option of inserting an empty C at LF is excluded in the three particular contexts investigated by Bošković, where Superiority effects do show up. Here C must be overtly present. Remember that in the Serbo-Croatian type of Focus-movement, the Focus-attractor has Attract-AllF property.

Multiple *wh*-words are involved in the focus chain both in Serbo-Croatian and in Bulgarian. However, in Bulgarian, only C can license the focus chain. The *wh*-word closest to C moves to [Spec,CP] and it also checks its [+foc] feature there.

As was mentioned above, matrix clauses with null C do not normally show Superiority effects in Serbo-Croatian. Therefore, it is really surprising that in the operation of Multiple Sluicing, Superiority does appear. Richards (1997) explains this by the fact that *WH*-scrambling is allowed only in matrix clauses. In his analysis CP has multiple specifiers and therefore the LF/PF C-insertion mechanism need not be called for in the contexts where Superiority is found.

If the ordering constraint here is some version of Superiority, the question arises why Superiority effects do emerge in the particular matrix interrogative clauses with null C mentioned above. Under Bošković's account, if C is inserted covertly, no Superiority effects should show up. If, however, *wh*-words in sentences undergoing Sluicing are in [Spec,CP], then C must be overt and in this case the arising Superiority effect can be immediately accounted for. The strong [+foc] feature with Attract-AllF property attracts all the *wh*-words here. When the overt insertion of C takes place, C acts as a focus licensor for all *wh*-elements. In Serbo-Croatian matrix clauses with the Multiple Sluicing of two *wh-word*s, where Superiority does shows up, it cares only about the uppermost *wh*-word (which must move first), all the other *wh*-items are freely ordered, as in the standard cases in Bulgarian.

In the light of Stjepanović's proposal, the "null IP/base-generated *wh*-word" approach of Richards (1997) regarding (matrix) sluicing cannot be maintained. The interplay of Sluicing and Superiority argue for a post-PF account. Multiple Sluicing is understood here as a special case of focus-ellipsis, therefore ellipsis should also be analysed as a (partly) PF phenomenon.

2.3 Multiple WH-questions in German (K. Grohmann)

Grohmann claims that German is a member of the class of Multiple WH-Fronting (MWF) languages. In his view, German multiple *wh*-words behave like Bulgarian D-linked multiple *wh*-words in that they do not show Superiority, though for reasons different from those in Bulgarian:

GERMAN

(14a) *Wer* hat *was* gerne gelesen?
who has what with pleasure read
'Who read what with pleasure?'

(14b) *Was* hat *wer* gerne gelesen?
what has who with pleasure read
'What was read by whom with pleasure?'

He further proves that the binding properties of German *wh*-words in parasitic gaps and weak crossover configurations do not indicate Superiority effects, either:

Parasitic gap

(15a) *Wer* hat *wen* ohne PG zu kennen eingeladen
who has whom without to know invited
'Who invited whom without knowing?'

Weak cross-over

(15b) *Was* hat *wem* seine Mutter gegeben?
what has whom his (own) mother given
'What did his mother give to who?'

While in Bulgarian only D-linked *wh*-words can neutralize Superiority, as in (11a,b), German multiple *wh*-words are always D-linked, thus Superiority is neutralized as a consequence of obligatory D-linking:

(16a) *Wer* hat *was* gekauft?
who has what bought
'Who bought what?'

(16b) *Was* hat *wer* gekauft?
what has who bought
'Who bought what?'

Drawing on Wachovicz (1974), Bošković (1998) distinguishes the pair-list (PL) interpretation from the single pair (SP) interpretation in the case of Multiple WH-questions. Adopting Hagström (1998)'s proposal that all interrogative clauses contain an abstract interrogative quantifier Q in the C-domain, Bošković (1998) associates the single pair (SP) interpretation with Q being moved from a high position to C, from where it c-commands all the *wh*-items. The pair-list (PL) reading, on the other hand, arises when Q originates in a low position and is moved to the C-domain from this low position. In this case, one *wh*-item may remain outside the scope of Q. The trace left behind by Q serves as a choice function variable in both cases.

Bošković sets up a typology of languages that allow the SP reading in addition to the standard PL reading of multiple *wh*-questions (including Multiple WH-fronting, Single WH-movement and Multiple Wh-in-situ alike):

(17)

Multiple wh-questions	**SP-reading**	**PL-reading**
(i) Japanese, Chinese	YES	YES
(ii) English	NO	YES
(iii)Bulgarian, German	NO	YES

Grohmann also establishes his tripartite division on the analysis offered by Hagström (1998). He claims that moving a *wh*-item to a position higher than Q virtually destroys the SP reading of Multiple WH-questions and allows only the standard PL interpretation. He gives the following typology:

(18) **Availability of SP/PL interpretation**
(i) WH-in-situ languages always allow the SP-interpretation;
(ii) Single WH-movement languages allow the SP interpretation only with D-

linked *wh*-words;
(iii) Multiple WH-movement languages never allow the SP interpretation.

He claims that German falls in the third group as it patterns with Bulgarian in allowing only the PL interpretation and disallowing the SP interpretation of Multiple WH-questions.

2.4 The Yiddish mix (M. Diesing)

Yiddish is a Germanic V2 language employing both *Single WH-fronting* (only one of the *wh*-items appears clause-initially) and *Multiple WH-fronting* (all *wh*-items appear clause-initially) within Multiple WH-questions. Yiddish *Single WH-fronting* looks exactly like a standard German Multiple WH-question. Like in German, *Single WH-fronting* does not create Superiority, whilst *Multiple WH-fronting* always does:

Single WH-fronting

(19a)	*Ver*	hot vos	gekoyft?
	who	has what	bought
(19b)	*Vos*	hot ver	gekoyft?
	what	has who	bought

Multiple WH-fronting

(20a)	*Ver*	*vos*	hot gekoyft?
	who	what	has bought
(20b)	**Vos*	*ver*	hot gekoyft?
	what	who	has bought

Multiple WH-fronting is possible in Yiddish only if the fronted *wh*-items are non-D-linked. In other words, the D-linking of *wh*-words blocks *Multiple WH-fronting* in this language. *Single WH-fronting* of a D-linked *wh*-item, however, is possible without causing any Superiority effect. The same holds for *wh*-adjuncts. Although *wh*-adjuncts cannot appear in *Multiple WH-fronting*, *Single WH-fronting* of one of the *wh*-adjuncts yields grammatical sentences without creating Superiority.

Diesing attributes these surprising restrictions on *Multiple WH-fronting* (no *wh*-adjuncts, no D-linked *wh*-arguments) and the total absence of such restrictions in *Single WH-fronting* to the different architecture of the CP in them. Notably, S*ingle WH-fronting* targets the specifier of a single-spec CP. In the case of *Multiple WH-fronting,* however, the *wh*-items are moved to a multi-spec CP. She postulates a special constraint applying to Yiddish multiple *wh*-questions to capture the asymmetric Superiority in Yiddish:

(21) **The Yiddish Multiple WH-fronting Constraint**
Multiple movement of *wh*-items must originate from an A-position.

Wh-adjuncts are automatically covered by this constraint. D-linked *wh*-items, on the other hand, are assumed to be [+specific]. Therefore, they must scramble out of V under the assumption that only [-specific] arguments may stay in VP-internal position. Given that scrambling involves movement to an A'-bar position, multiple fronting of D-linked *wh*-items is blocked by the Yiddish Multiple WH-fronting Constraint. *Single WH-fronting* is not restricted. Scrambling has the effect of masking away Superiority; this is why *Single WH-fronting* is possible without creating Superiority effects.

*2.5 The Persian puzzle (*A. Lotfi)

Persian is a null subject SOV language where WH-in-situ questions occur *on a par with* optional WH-fronting:

WH-in-situ
(22a) Armin *chi* xarid?
Armin what bought
'What did Armin buy?'

Optional WH-fronting
(22b) *Chi* Armin xarid?
what Armin bought
'the same'

While *wh*-words in *Multiple WH-in-situ* questions never create any Superiority effects, optional *Multiple WH-fronting* always does. Lotfi shows that the Superiority effects arising both in *Single* and *Multiple WH-fronting* can be neutralized in certain contexts due to the interplay of discourse- related / semantic / morphological factors.

As Lotfi notes, *wh*-arguments can freely scramble over other *wh*-arguments or *wh*-adjuncts without generating Superiority effects. This may be due to some discourse-related role of the fronted *wh*-argument. Yet the question remains, why fronted *wh*-adjuncts cannot freely scramble over *wh*-arguments without producing Superiority.

Lotfi offers a solution based on the different ordering of A-scrambling vs. A-bar scrambling with respect to Q-movement. In the spirit of Hagström's and Bosković's theory of multiple *wh*-questions, he assumes that Q-movement from a low clause-internal position results in PL reading while generating Q higher gives SP reading. Given that Single and Multiple WH-fronting in Persian allow only the PL reading, both must involve Q-movement from a low clause-internal position.

(23) **Ordering of A vs. A-bar movement with respect to Q-movement**
A-movement→Q-movement→A-bar movement

Persian *WH-in-situ* questions allow only for the PL reading. This is unexpected both in Hagström's and in Pesetsky's theory. Lotfi shows, however, that the loss of the SP reading is the result of generating Q next to the lowest *wh*-position. This makes at least one *wh*-item external to the scope of Q, allowing the PL reading but disallowing the SP reading.

2.6 The Malagasy rainbow (J. Sabel)

Malagasy WH-questions occur in all possible varieties: *Single* and *Multiple WH-in-situ*, *Partial* and *Full WH-movement* as well as optional *Single* and *Multiple WH-fronting* are all available in this language.

Malagasy is a topic-prominent VOS language with relatively free word order, where topichood is determined partly by the Thematic Hierarchy and partly by D-linking. Various analyses have been proposed to account for word order variation in Malagasy: (i) base-generating each word order pattern with [Spec, IP] on the right (ii) deriving all word order patterns from SVO; (iii) remnant IP-movement to the left of a (previously) topicalized XP. Commitment to any of these theories is immaterial for the analysis of WH-questions in this language.

Single WH-fronting has a peculiar restriction: only the *wh*-item sitting on the right periphery and functioning as the "logical subject" can be fronted to the left. This is called the "Subject-only restriction" in Sabel's paper.

As regards *Single* and *Multiple WH-in-situ*, there are three important restrictions on their use. The first one is that the focus marker *-no* cannot appear on the left periphery if any *wh*-item remains *in situ* in the clause. Thus, focalising is only possible simultaneously with overt WH-fronting. Second, *wh*-items are inherently [-specific], therefore, they cannot remain in [Spec,IP] on the right periphery. Their movement to [Spec,CP] on the left periphery is obligatory. Third, non-referential *wh*-adjuncts cannot remain in-situ, they obligatorily move to the left periphery.

Sabel proposes that the strong [+foc] feature of C is lexically determined (selected). *Single*, *Full* and *Partial WH-movement* constructions stem from the selected strong [+foc] features of C. In *Multiple WH-fronting*, the fronted *wh*-items constitute a cluster in [Spec,CP] before *WH*-movement to [Spec,CP] takes place (contrary to Rudin 1988). This analysis correctly predicts that (a) the order of the fronted *wh*-items is fixed, (b) no category may intervene between the fronted *wh-word*s and (c) long *WH*-movement of multiple *wh*-items is licit. Last, if the strong [+foc] is neither selected in D nor in C, then all *wh*-words remain in situ. (Multiple) *WH-in situ* constructions stem from the weak [+foc] feature in C.

2.7 Multiple WH-questions and Anti-Superiority in Japanese (Y. Jeong)

The author proposes an alternative account of Anti-Superiority and its neutralisation in Japanese. By Anti-Superiority he means that an adjunct *wh*-word (*naze* 'why') cannot precede any other *wh*-word in a Multiple WH-question. Anti-Superiority is eschewed when inserting an additional *wh*-item:

JAPANESE

(24a) *NAZE NANI-O anata-wa katta no ?
why what-ACC you-TOP bought Q
'Why did you buy what?'

(24b) *Taroo-ga NAZE NANI-O katta no ?
Taroo-NOM why what-ACC bought Q
'Why did Taroo buy what?'

(24c) DARE-ga NAZE NANI-O katta no ?
who-NOM why what-ACC bought Q
'Who bought what why?'

In the model of Kayne (1994), head-finality arises as a result of V-movement to an uppermost position (identified as C) and is followed by the leftward movement of the IP to a position beyond the landing site of V. IP moves to [Spec,CP] and therefore there is no landing site for *WH*-movement. Jeong slightly modifes Rizzi (1997), in that *wh*-phrases land in [Spec, FocP]. Consequently, the lower Topic above [FINP] is replaced by a position hosting scrambled strings.

Multiple *WH*-fronting is usually understood as the movement of all *wh*-items to the left periphery due to the fact that the *wh*-items share one common feature. Pesetsky (2000) alternatively proposes that there is more than one feature involved here. He supports this claim by Bulgarian WH-questions, where two or more *wh*-words can be fronted, however, to different positions. By combining Pesetsky's proposal with Rizzi's Split CP model, the author arrives at the conclusion that in Multiple *WH*-fronting contexts, FocP can host two *wh*-items.

Naze positions are shown below (the structure is well-formed both with and without subject topicalisation, (25a) vs. (25b,c). *Naze* 'why' is base-generated in [Spec,FocP]:

JAPANESE

(25a) [$_{ForceP}$[$_{TOPP}$ [Taroo-ga t_i] t_s[$_{FOCP}$ NAZE [$_{XP}$ [x kitta$_i$ x]
Taroo-NOM why came

[$_{FINP/IP}$ t_s]]]] no]?
Q

(25b) [$_{FORCEP}$ NAZE [$_{TOPP}$ [$_{FOCP}$ t [$_{XP}$ [Taroo-ga t_i] t_s [x
why Taroo-NOM

kitta$_i$ x] x] [$_{FINP/IP}$ t_s]]]]] no]?
came Q

(25c) [$_{FORCEP}$ [$_{TOPP}$[$_{FOCP}$ NAZE [XP [Taroo-ga t_i t_s [x kitta$_i$
why Taroo-NOM came

x][$_{FINP/IP}$ t_i]]]] no]?
Q
'Why did Taroo come?'

This word order is obtained by the successive cyclic movement of *kitta* to X, and then the remaining FINP/IP moves to [Spec,TOPP] by remnant movement (there is no evidence for any difference between FinP and IP here). Two options are available to churn out the kind of order in (25b,c). (i) one can either claim IP to be in [Spec,TOPP] as in (25a), with the difference coming from scrambling of *naze* to [Spec,ForceP], as in (25b); or (ii) *naze* 'why' targets [Spec,FOCP] and the V is head-adjoined to X; the remnant IP is positioned in [Spec,XP], (25c).

(26) *[$_{ForceP}$[$_{TOPP}$ [$_{FINP}$ t_k t_j t_i][$_{FOCP}$ [DARE-GA$_j$ NAZE] [$_{XP}$ NANI-O$_k$
who-NOM why what-ACC

[x katta$_i$ x] no] ?
bought Q

Anti-Superiority arises when a second *wh*-phrase, *nani-o* 'what' raises and adjoins to *naze* (note thas this is the only option in a Kaynean framework since multiple specifiers are not available). If *nani-o* 'what' adjoins to *naze* 'why' in (26), Pesetsky's *wh*-requirement is met, with at least two *wh*-phrases in [Spec,FocP], now with the order <nani-o, naze>:

(27) $[_{ForceP}\,[_{TopP}$ [Taroo-ga t_i $t_k]_s$ $[_{Foc}$ [NANI-O_k NAZE]
Taroo-NOM what-ACC why

$[_{Foc}\,][_{XP}\,[_X$ katta$_i$ x] $[_{FinP/IP}$ t_s t_k]]]] no]?
bought Q

In Jeong's account, the interplay of Kayne's, Rizzi's, and Pesetsky's independently motivated models provide a natural account of Anti-Superiority and the additional *wh*-effects in Japanese (and Korean). These two phenomena had proven refractory to a minimalist treatment, as previous accounts relied primarily on the ECP and the notion of government.

2.8 Focus, wh-indefinites and their interaction (M. den Dikken)

In this paper, Den Dikken investigates some asymmetries in the syntactic behaviour of true *wh*-words, echo-*wh*-words, *wh*-indefinites and *wh*-relatives and their interplay with the Q and F operators. Assuming a "Split CP" on the left periphery of the clause structure of English and Hungarian, he argues that *wh*-phrases in English root clauses with a single *wh*-item move to [Spec,FocP], while they move as high as [Spec,CP] in embedded *wh*-questions. He also shows that replacing the syntactic operation of WH-movement by a single [+q] interrogative feature in C is not an acceptable alternative of the [+wh] feature-based approach to *WH*-movement. Though the [+wh] feature plays a crucial role in *WH*-movement, the statement that C attracts the closest [+wh]-marked constituent to its specifier would be inaccurate in his view.

Echo-*wh*-words contain both an interrogative Q-morpheme and a *wh*-morpheme, whilst no Q-operator appears in C. Thus the question interpretation rests on the echo-*wh* (i.e. the Q-morpheme) alone. A *wh*-word equipped with this Q-morpheme can team up with another *wh*-item in [Spec,FocP] (neither of them moves to [Spec,CP]) and forms a single pair of *wh*-expressions with it, i.e. a single-pair echo question.

The *wh*-indefinite *wh-the-hell* in (28) is not dependent on the Q-operator of the subordinate clause; rather, it is licensed as a polarity item by some non-veridical licensor in the matrix clause (Den Dikken & Giannakidou 2002) :

(28) $[_{CP}[_{TP}$ You are $[_{VP}$ wondering $[_{CP}$ *who-the-hell*$_s$ is$_v$ $[_{FOCP}[_{TP}$ t$_v$ $[_{VP}$ R$_s$ t$_v$ in love with *who*]]]]]]].

Just like in Hungarian, the [+wh] feature of C in English seems to be weak. In English embedded clauses, however, WH-movement proceeds all the way up to [Spec,CP], with the [+wh] feature serving as the trigger for overt *wh*-movement to [Spec,CP].

Den Dikken's account concerning the distribution of *wh-the-hell* expressions supports the approach to strong features outlined in Chomsky (1995). In the wh-in-situ type other properties hold: their [+wh] feature in C is weak, hence no overt *wh*-displacement is detected in any *wh*-interrogatives (Chinese, Japanese, Korean). In other langauges, *wh*-items in relative clauses must be overtly displaced to [Spec,CP] regardless of the strength or weakness of the [+wh] in C.

Matrix Subject-Aux Inversion and its absence in embedded clauses, as well as the incompatibility of *wh*-fronting and negative inversion in embedded and matrix contexts poses a problem for movement to [Spec, FocP]. Den Dikken's key hypothesis is that the strong [+foc] feature of the Focus head can be checked against the strong [+wh] feature of the C head that attracts it. Therefore, once the Focus head moves to C, it will no longer attract an auxiliary (in embedded clauses). Upon Foc-to-C movement, the complex {C+Foc} will

require that a [+wh, +foc] phrase should raise to [Spec,CP] without landing in [Spec,FocP]. Due to Foc-to-C movement, [Spec, FocP] does not project; therefore, Negative Inversion will be illicit in embedded *wh*-interrogatives. The incompatibility of *WH*-fronting and Negative Inversion arises in matrix clauses, too, since both operations target the same position, the non-recursive [Spec,FocP].

2.9 Multiple WH-questions, topic and focus in Basque (L. Reglero)

Basque is a language in which (i) the focus feature triggers *WH*-fronting; (ii) two WH-movement strategies crop up, (iii) Superiority always arises, (iv) not all *wh*-words move to C, and (v) Long *WH*-movement is licit.

Reglero adopts Bošković's (2002) main ideas: (a) Multiple *wh*-phenomena and echo-questions are triggered by the [+focus] feature, (b) C is lexically inserted, as an Attract-1F head for *WH*-movement; by contrast, the attractor for focus movement in an Attract-AllF head (Bošković 2002, Stjepanović 1998). This thrashes out a pivotal aspect: questionhood and answerhood criteria hinge on whether *wh*-words are moved by Focus-movement or *WH*-movement. Assuming that foci and *wh*-words show certain similarities (see Ortiz de Urbina 1999), two different strategies of Multiple WH-question are proposed for Basque. The English pattern (*WH*-movement) is accounted for as follows: the in-situ *wh-word* is D-linked, whereas the fronted *wh*-word is focalised.

BASQUE

(29) NORK / *ZER erosi du zer / *nork ?
who-ERG / *what-ABS buy AUX what-ABS / *who-ERG
'Who bought what?'

Since the referent of the D-linked *zer* 'what' is discourse-linked, it does not need to move to focus. At the same time, the non-D-linked *nork* 'who' undergoes focus movement in (29). Reglero claims that D-linking is equivalent to topicalisation. Grohmann (1998) makes a

similar statement, notably that D-linking correlates with the [+topic] feature. The Basque pronoun *zer* is thus taken to be D-linked/topicalised. Since the set of referents of D-linked elements is discourse-dependent, such D-linked categories do not undergo focus movement. At the same time, there is evidence that *nori* 'who' does undergo Focus-movement in (29), due to its non-D-linked nature.

In-situ *wh*-items have a [+topic] feature, which needs to be checked. As soon as they are overtly attracted to [Spec, TOPP], the sentence becomes grammatical:

BASQUE

(30a) *NORK eman dio muxua sutsuki nor-i ?
who give AUX kiss passionately who-DAT
'Who kissed whom passionately?'

(30b) NORK eman dio nor-i muxua sutsuki ?
who give AUX who-DAT kiss passionately
'the same'

Since [-wh] objects do not have to check a [+topic] feature, they can remain in their base position. A [-wh] object, however, can show up in pre-adverbial position; Reglero calls this operation optional scrambling. Thus, each movement materializes in a different way.

(31) NORK eman dio Miren-i muxua sutsuki ?
who-ERG give AUX Miren-DAT kiss-ABS passionately
'Who kissed Miren passionately?'

Preverbal *wh*-words land in [Spec, FocP]. Single-pair answers are only allowed when [Spec,CP] is not filled by any *wh-word*, a necessary requirement for licensing single-pair answers, at least in Serbo-Croatian (Bošković 2002). Most Basque informants accept only the pair list answer for (30). In Basque, [Spec,CP] may not be filled overtly and still only pair-list answers are felicitous. Thus, preverbal *wh-words* do not move overtly to [Spec,CP] but remain in the lower [Spec, FocP] position.

In sum, Basque is an Attract-AllDiscourse and Attract-1Topic language. Basque *Multiple WH-fronting* is an instance of focalisation; nonetheless it is not exactly like its Serbo-Croatian counterpart. Due to the Basque adjacency requirement of the verbal affix, only one *wh*-word can undergo focalisation. Long-distance contexts show that Basque WH-movement is similar to the Russian pattern in that it does not take place even in the contexts where C is overtly inserted. Thus, the single-pair reading still remains felicitous.

2.10 Conjoined Multiple WH-questions in Hungarian (A. Lipták)

The main concern of this paper is to show how the syntactic structures of clauses with pre-verbally conjoined vs. post-verbally conjoined *wh*-phrases in Hungarian differ:

HUNGARIAN

(32a) KI és MIKOR látta Marit?
who and when saw Mary
'Who saw Mari and when?'

(32b) KI látta Mari-t és MIKOR?
who saw Mari-ACC and when
'the same'

Non-conjoined, true Multiple WH-questions are dealt with only fleetingly. They either pattern with Bulgarian *Multiple WH-fronting*, (33a), or with English *Single WH-fronting*, (33b):

(33a) KI KI-T látott?
who who-ACC saw

(33b) KI látott KI-T?
who saw who-ACC

As Lipták convincingly shows, not all instances of conjoined interrogative clauses have a multi-clausal structure: (a) post-verbally and pre-verbally conjoined structures differ in the way the arguments of the verb are realized in them; (b) furthermore, the agreement properties of the base verb differ in the two types.

In pre-verbally conjoined interrogatives, arguments or adjuncts can be conjoined with arguments or adjuncts, (32a). By contrast, in post-verbally conjoined interrogative clauses, the second conjunct can only be an optional *wh*-element (adjunct). Compare (32a) with (34):

(34) *MIKOR látta Mari-t és KI ?
when saw Mary-ACC and who
'Who saw Mari and when?'

The second conjunct in pre-verbal coordination can license an argument, whereas the second conjunct of post-verbal coordination cannot do so (post-verbally conjoined *wh*-questions can only contain adjunct *wh*-items):

(35) KI és KI-T ölt meg?
who and who-ACC killed PFX
'Who was killed and by whom?'

(36) *KI ölt meg és KI-T?
who killed PFX and who-ACC
'the same'

If we adopt an analysis where both types are derived from the same underlying structure (Bánréti 1992), the structures in (35) and (36) would both have to be reconstructed as (37) and the differences between pre-verbally and post-verbally conjoined *wh*-items could not be derived:

(37) **KI** <ölt meg> & **KIT** <ölt meg>?
who <killed PFX> & whom <killed PFX>

This structure violates the Projection Principle if the first clause contains only a subject, but no overt object. (The object cannot be covert or trace; furthermore, it cannot be *pro*.)

Pre-verbally conjoined *wh*-words are multiple *wh*-items in one and the same clause. Post-verbally conjoined *wh*-words, in turn, arise from true multi-clausal structures with a separate *wh*-item in each. Both coordination types can be used in identical situations, and elicit the

same SP answers. Other multiple questions like Multiple WH-fronting in (33) can never be called on when a SP answer is expected.

Superiority facts are handled by ”Attract Highest” in Boskovic’s framework. What is attracted by the Foc head here first is the first conjunct. The second conjunct, taking the form of *&P*, is adjoined to it later, post-cyclically (somewhat reminiscent of the late adjunction solution in Stepanov (2001) and Fox (2002)). If viable, Lipták’s proposal provides evidence for a derivational approach to coordination.

2.11 Multiple Agree as Intervention Effect (C. Boeckx)

Boeckx takes *Object Honorific (OH)* agreement phenomena in Japanese Double Object constructions to be akin to Multiple WH-fronting in that they both display intervention effects. He shows that the direct object is inaccessible for the *v* if a dative element is present as far as *phi*-feature checking is concerned. While *Object Honorific (OH)* agreement hinges on checking the Case vs. Person/Number features of the ditransitive verb, Multiple WH-fronting turns on checking the [+wh] vs. [+focus] features of the *wh*-word:

(38a) Hanako-ga Tanaka Sensei-ni Mary-o
Hanako-NOM Tanaka teacher-DAT Mary-ACC

gosyookai-**si**-ta.
introduce-OH-PAST
‘Hanako introduced Mary to Professor Tanaka.’

(38b) *Hanako-ga Mary-ni Tanaka Sensei-o
Hanako-NOM Mary-DAT Tanaka teacher-ACC

go-syookai-**si**-ta.
introduce-OH-PAST
‘Hanako introduced Professor Tanaka to Mary.’

In his attempt to treat Japanese *Object Honorific (OH)* agreement phenomena and Multiple WH-fronting in a unified framework, Boeckx ignores an important difference

between these two operations: Multiple WH-fronting is quantificational, while *Object Honorific (OH)* agreement is not. Quantificational Multiple WH-fronting cannot be reduced to multiple feature checking in general, as in this way the important differences between the SP and PL readings (Hagström 1998) would remain unexplained.

3 Summary

This collection of essays is a good reference book for anybody who wishes to gain an insight into the syntax and semantics of Single and Multiple WH-questions. It has both descriptive and explanatory merits. It provides us with comparative analyses of *WH*-strategies in typologically diverse languages, placing *WH*-fronting in the broader framework of WH-dependencies and Head Movement. Although a "Handbook of WH-interrogatives" is still awaiting its birth, Boeckx & Grohmann's *Multiple Wh-Fronting* is indispensable for all linguists working on WH-related problems in syntax or semantics. Most authors in this volume use GB and Minimalism as their theoretical background with a possible outlook to other approaches concerning the analyses offered in their work.

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