

A Note on Wh-Typology¹

In this paper I discuss several issues that arise under the typology of wh-fronting established in Bošković (1999, 2002a) with respect to Superiority, single-pair/pair-list answers to questions, and the driving force of multiple wh-fronting.

In her seminal (1988) paper, Rudin argues that in spite of superficial similarity, multiple wh-fronting (MWF) constructions in different Slavic languages display two different structures. For her, all Slavic languages have wh-movement, i.e. movement of a wh-phrase to SpecCP. In particular, under her analysis the initial wh-phrase in a sequence of fronted wh-phrases always moves to SpecCP. However, she argues that Slavic languages differ regarding the location of non-initial wh-phrases, i.e. movement that Bošković (2002a) calls non-wh-fronting. In Bošković (2002a) I make two modifications of Rudin's analysis. First, I argue that non-wh-fronting involves focus fronting.² Second, I argue that not all Slavic languages have true wh-movement—some of them have only focus fronting. I give several tests for teasing apart wh-movement and focus movement. Thus, I argue that Superiority effects (i.e. strict ordering of fronted wh-phrases) are associated with wh-movement, but not with focus movement (see Bošković 1999 and the discussion below for explanation why this is the case). Given this, it follows that the Bulgarian examples in (1) involve true wh-movement, as also argued by Rudin, while the SC and Russian examples in (2-3) do not.³

- (1) a. Koj kogo obiĉa?
 who whom loves
 'Who loves whom?'
 b. *Kogo koj obiĉa?
- (2) a. Ko koga voli?
 who whom loves
 b. Koga ko voli?
- (3) a. Kto kogo ljubit?
 who whom loves
 b. Kogo kto ljubit?

As demonstrated in Bošković (2002a), the results of the Superiority test are confirmed by the single pair/pair list answer test. In Bošković (2002a, 2003a) I show that languages that have overt wh-movement require a pair list answer for constructions like (4).⁴ Thus, (4) cannot be felicitously asked in the following situation: John is in a store and sees somebody buying an article of clothing, but does not see who it is and does not see exactly what the person is buying. He goes to the sales clerk and asks (4).

- (4) Who bought what?

¹While this paper deals with a topic (multiple wh-fronting) which was one of the topics discussed in my FDSL presentation, the current paper is actually a different paper, i.e. it does not correspond to my FDSL presentation.

²This is the case with non-D-linked wh-phrases. See Bošković (2002a) and the discussion below regarding D-linked wh-phrases, which, due to their semantics, do not undergo focus movement.

³Slovenian (see Golden 1997), Polish and Czech (see Rudin 1988) pattern with SC in this respect, while Macedonian patterns with Bulgarian (see Kochovska 2006).

⁴I ignore here D-linking questions.

I also observe that whereas German, a wh-movement language, patterns with English in this respect, wh-in-situ languages like Japanese, Hindi, and Chinese allow single-pair answers for questions like (4). Particularly interesting here is French, a language that has both the wh-movement and the wh-in-situ strategy.⁵ It turns out that single-pair answers are possible in French, but only with in-situ questions. Thus, the in-situ question in (5a) can have a single-pair answer, which is not possible with (5b).

- (5) a. Il a donné quoi à qui?
he has given what to who
'What did he give to who?'
b. Qu'a-t-il donné à qui?

Based on these facts, in Bošković (2002a, 2003a) I establish the generalization that the availability of single-pair answers depends on the possibility of not moving any wh-phrase to SpecCP overtly, more precisely, overt movement of a wh-phrase to SpecCP results in the loss of single-pair answers (for an explanation of this state of affairs, see Bošković 2003a and the discussion below).⁶

Turning to Slavic, in Bošković (2002a, 2003a) I observe that, as expected, Bulgarian, a language in which interrogative SpecCPs are obligatorily filled by a wh-phrase overtly, patterns with English in that (6) requires a pair-list answer.

- (6) Koj kakvo e kupil?
who what is bought
'Who bought what?'

Significantly, SC patterns with languages in which wh-phrases do not have to move to SpecCP overtly. Thus, SC (7) can have either a pair-list (PL) or a single-pair (SP) answer. This indicates that SC questions are well-formed even when no wh-phrase moves to interrogative SpecCP overtly.

- (7) Ko je šta kupio?
who is what bought
'Who bought what?'

Stepanov (1998) and Bošković (2002a) note that Russian questions like (8) also allow SP answers, as expected.

- (8) Kto čto kupil?
who what bought
'Who bought what?'

Polish and Romanian confirm the analysis. Like SC and Russian, Polish does not show Superiority effects in short-distance null C questions (see Rudin 1988), which means that it does not have to have overt wh-movement in such questions. On the other hand, Romanian shows Superiority effects (see Rudin 1988), which means that it has obligatory overt wh-movement, like

⁵As discussed in Bošković (1998a, 2000), in many cases the wh-in-situ option is banned in French. However, this is not the case with the context under consideration.

⁶But see also Grebenyova (2006).

Bulgarian and English.

- (9) a. Kto co kupił? (Polish)
who what bought
'Who bought what?'
b. Co kto kupił?
- (10) a. Cine ce a cumpărat? (Romanian)
who what has bought
'Who bought what?'
b. *Ce cine a cumpărat?

Significantly, Citko and Grohmann (2001) observe that an SP answer is possible for Polish (9a), but not for Romanian (10a) (see fn 15 for discussion of the interpretation of (9b).) It is also worth noting that Meyer (2003) shows that Czech does not exhibit Superiority effects and allows SP answers in regular multiple questions.⁷ On the other hand, as observed in Diesing (2003), Yiddish MWF constructions show Superiority effects and disallow SP answers. Apparently, there is a correlation between Superiority effects and the availability of SP answers (see below for a more detailed discussion of the correlation), as expected under the analysis presented in Bošković (2002a), where they are both testing the same thing.⁸

So far, we have seen that there is a division of MWF languages into two groups, regarding whether they have wh-movement in constructions like (1-3). However, in Bošković (2002a) I argue that we need to establish at least three different types of MWF languages. The reason for this is that non-wh-movement MWF languages display different behavior if we look at contexts other than the one illustrated in (1-3). In particular, while Russian never shows Superiority effects, and Bulgarian always shows them, SC actually shows Superiority effects in some contexts. In particular, SC shows Superiority effects in long-distance questions, embedded questions, and overt C (*li*) questions (see Bošković 2002a for relevant data). Interestingly, these are exactly the contexts in which French, a language that allows both the wh-movement and the wh-in-situ strategy in constructions corresponding to English *What did John buy*, must have wh-movement (see Bošković 2002a for relevant data). We then have the following state of affairs: SC has superiority effects where French must have wh-movement (the contexts given above), Bulgarian has superiority effects where English must have wh-movement (namely, in all contexts), and Russian has superiority effects where Chinese must have wh-movement (namely, never). I show that this state of affairs can be accounted for if SC/Bulgarian/Russian pattern with French/English/Chinese with respect to when they have wh-movement; the only difference between SC/Bulgarian/Russian and French/English/Chinese being that the former group has the additional wh-fronting which involves focus movement.⁹ Under this analysis, we have a perfect

⁷See also Meyer (2003) for discussion of another, structurally exceptional type of multiple questions in Czech, which can nevertheless be accommodated in the Hagstrom/Bošković analysis of questions discussed below, as demonstrated by Meyer.

⁸Notice, however, that the above tests show that SC and Russian constructions like (7) and (8) do not have to involve wh-movement, not that they cannot. ((2b) and (3b), on the other hand, cannot, or they would show Superiority effects.)

⁹For discussion why SC must have wh-movement in the contexts listed above, but not in the context in (2), which involves a short-distance null C matrix question, see Bošković (2000) (see also Park 2005 regarding long-distance questions). It is also worth noting here that, as discussed in Bošković (2003b), in the contexts where SC must have wh-movement SC completely switches to the Bulgarian paradigm, i.e. it places all fronted wh-phrases in SpecCP in these contexts. (See Bošković 2005b for an explanation of this state of affairs. The gist of the account is that unless the Bulgarian option is taken, we would have to have focus movement feeding wh-movement in the SC constructions in question, which is quite generally disallowed.) The reader is also referred to Bošković (2002a) for

correlation between Superiority and wh-movement; any time a MWF language must have wh-movement, it shows Superiority effects.¹⁰

It is worth noting at this point that, as anyone who has tried to elicit judgements regarding MWF knows, the relevant distinctions are rather subtle, and are certainly not completely uniform across all speakers of a single MWF language. Thus, Ljiljana Progovac informs me that for her, SC patterns with Bulgarian in that it has Superiority effects in all contexts and disallows SP readings. Léa Nash informs me that for her, Russian patterns with SC in all relevant respects (thus, for her, Russian shows superiority effects exactly where SC shows it). On the other hand, Asya Pereltsvaig informs me that for her, Russian behaves like Bulgarian—it always has superiority effects and disallows SP readings. It is important to notice that this variation does not argue against the above analysis. In fact, it very strongly confirms it. The analysis establishes three patterns, with MWF languages falling into these patterns. What we are seeing here is that even when speakers of the same language do not agree regarding the relevant judgments, their judgments still fall into one of the three established types. While it would then be more appropriate to refer to the patterns in question as X,Y,Z, I will keep using the terms Bulgarian, SC, and Russian pattern for ease of exposition. The reader should, however, bear in mind that there is speaker variation here, which can be easily accommodated within Bošković's (2002a) system.

One more thing to bear in mind is an important issue regarding the PL/SP readings test. As noted above, in Bošković (2003a) I provide an explanation for the damaging effect that overt wh-movement has on the availability of SP readings. Under the analysis given in this work, which is based on Hagstrom's (1998) semantics of questions, languages that have obligatory overt movement of a wh-phrase to SpecCP cannot license SP answers, while languages that do not have it may, but do not have to, allow such answers. In other words, not filling SpecCP by a wh-phrase overtly is necessary but not sufficient for licensing SP answers. This means that one potential break-down of the superiority/availability of SP answers correlation discussed above would not be unexpected in the typology developed in Bošković (2002a). In particular, it would not be surprising to find a MWF language that does not show Superiority effects in constructions like (1-3), but still disallows SP answers. This is in fact exactly the pattern that Grebenyova (2006) reports for Russian. More precisely, some speakers of Russian apparently do now show Superiority effects in (3), but they disallow SP answers for (3a). The pattern can be easily accommodated within the current system given the account of SP/PL readings offered in Bošković (2003a). Here's the gist of Bošković's (2003a) analysis of the damaging effect of overt wh-movement on the availability of SP answers. I adopt Hagstrom's (1998) semantics of questions, on which a Q morpheme, an existential quantifier over choice functions which is necessary for an interrogative interpretation, is merged below the CP projection. In Hagstrom's system, an SP reading results if the Q morpheme is merged right below CP, in a position where it has both wh-phrases in its scope (so that both wh-phrases are in the domain of the choice function; cf. (11a), an abstract structure of an English question). There is another option for the introduction of the Q morpheme into the structure: it can be merged with one of the wh-phrases, in which case it does not have both wh-phrases in its scope (cf. (11b)). In Hagstrom's system this option leads to a PL answer.¹¹ Bošković (2003a) demonstrates that this system can quite

discussion of SP/PL readings in the contexts in which SC must have wh-movement.

¹⁰See below for explanation why wh-movement and focus movement behave differently with respect to Superiority.

¹¹The gist of the system is that in the former scenario (where the choice function has both wh-phrases in its domain), we end up with a set of propositions, whereas in the latter scenario (where the choice function does not have both wh-phrases in its scope), we end up with a set of sets of propositions (using flexible functional application; see Hagstrom 1998 for details of the semantic composition). Hagstrom then proposes rules of question recognition, whose result is that in order to answer a single-pair question, one proposition from the set is selected, and in order

straightforwardly capture the damaging effect of overt wh-movement on the availability of SP readings. Recall that, in order to get an SP reading, the Q morpheme must be introduced into the structure above both wh-phrases. But then, in a language like English, the wh-phrase that undergoes overt wh-movement will have to cross the Q morpheme, which I argue in Bošković (2003a) leads to a relativized minimality effect (an element with a +wh feature crosses an element with a +wh feature; see (11a)). The problem does not arise in (11b), where the Q morpheme is merged with the lower wh-phrase, so that the wh-phrase that undergoes wh-movement does not cross it. Recall, however, that this option results in a PL answer.

- (11) a. WH_i C Q [t_i wh] SP reading
 b. WH_i C [t_i wh+Q] PL reading

In this system, overt wh-movement to SpecCP will always induce a relativized minimality violation on the SP reading, so that this reading is unavailable in languages with overt wh-movement.¹² This particular problem does not arise in languages without overt wh-movement. Suppose, however, that due to its lexical properties, the Q morpheme requires merger with a wh-phrase (this would be a selectional requirement).¹³ Since this option always leads to a PL reading, this would rule out the SP reading even in a language that does not have overt wh-movement. This is one way of blocking the possibility of SP readings for the Russian speakers who do not allow it. Another possibility would be to take advantage of focus movement. Suppose that for the Russian speakers who do not allow SP readings, the landing site of focus movement is higher than the higher position in which the Q morpheme is merged on the SP reading. A wh-phrase would then cross the Q morpheme when undergoing focus movement, which should also yield a relativized minimality effect since we would be dealing here with A'-movement crossing an A'-element.¹⁴ I conclude, therefore, that the SP reading can be blocked even in a language like Russian, which does not have overt wh-movement. The upshot of the system is that an overt wh-movement language will never allow SP answers, while languages that do not have overt wh-movement may, but don't have to, allow SP answers. We can then account for the variation found in Russian, a language that does not have overt wh-movement in which some, but not all speakers allow SP answers.

Returning now to SP/PL readings in SC, Sandra Stjepanović (p.c.) observes a very interesting piece of data regarding an interaction of left-branch extraction with SP/PL answers (see Bošković 2005a for discussion of left-branch extraction in SC). Whereas (7) can have both PL and SP answers, constructions involving left-branch extraction over another wh-phrase, like

to answer a pair-list question, one proposition from each member set is selected. So, on a single-pair reading, a question like "who bought what" would be equivalent to a set of propositions like {John bought a house, Peter bought a car...}, where a proper answer would be, e.g. "John bought a house". On the other hand, on the pair-list reading, we would have a set like {{John bought a house, John bought a car...} {Peter bought a house, Peter bought a car...}}, with a proper answer being, e.g., "John bought a house and Peter bought a car".

¹²It is not out of question that a single wh-fronting language would allow SP answers. In Bošković's (2003a) system this would lead to the conclusion that the language in question does not have real wh-movement. Rather, the language could have fronting of a wh-phrase to a lower projection (e.g. FocP or TopP; see the discussion below). Strictly speaking, we would not be dealing with a true wh-movement language then.

¹³See also Diesing (2003) and Grebenyova (2006).

¹⁴Notice that even in the current theoretical system, where relativized minimality is standardly taken to be relativized to the specific feature involved in the movement in question, we actually need to appeal to the A/A' distinction to capture the relativized minimality effect in its entirety. Thus, it is well known that focalization and topicalization out of wh-islands lead to a relativized minimality effect, although we have here +focus/+topic movement crossing a +wh-element (in fact, the same scenario as the one discussed above). Traditional relativized minimality can of course easily handle such cases since we have here an A'-movement dependency crossing an A'-element.

those in (12), require a PL reading.¹⁵

- (12) Kakvu je koji student ocjenu dobio?
what-kind-of is which student grade got
'What kind of grade did which student get?'

In my system this means that constructions like (12) must involve true wh-movement. As discussed above, there are a number of contexts where SC must have true wh-movement. Bošković (2000) and Park (2005) provide theoretical explanation why this is the case. However, their explanations do not extend to (12). I speculate here that the restriction of a wh-phrase cannot be stranded under non-wh-fronting, i.e. focus movement, so that (12) then must involve real wh-movement. As a result, only the PL reading is allowed.¹⁶ Notice also that (12) does not show Superiority effects since the example involves D-linking. Interestingly, *Kakvu je ko ocjenu dobio* 'What kind of grade did who get', where the subject is not D-linked, does appear to be degraded, which is not surprising given that the example involves true wh-movement.

Let us now consider the reason for the different behavior of focus movement and wh-movement with respect to Superiority. In Bošković (1999) I argue that the different behavior of focus movement and wh-movement with respect to Superiority can be captured under the economy account of Superiority, on which superiority effects follow from the requirement that every feature be checked through the shortest movement possible. An important difference between focus movement and wh-movement in the languages under consideration is that only one wh-phrase undergoes wh-movement (in constructions where wh-movement does take place in the first place), while all wh-phrases undergo focus movement. When it comes to wh-movement (i.e. movement motivated by checking the +wh-feature of C), only one wh-phrase needs to move, checking the strong +wh-feature of C. In order to check the feature in the most economical way, i.e. through the shortest movement possible, it is always the highest wh-phrase that undergoes wh-movement, checking the +wh-feature C. (The underlying assumption here is that movement to SpecCP triggers Spec-head agreement with C, checking its +wh-feature. This means that with respect to wh-movement, the highest wh-phrase must move first; otherwise, the +wh-feature would not be checked in the most economical way.) With focus movement, we are dealing with multiple movement to the same position since all wh-phrases undergo this movement in the languages in question. Regardless of the order of movements, the same number of nodes is always crossed, hence no order is preferred by Economy. While in Bošković (1998c) I state the focus requirement as an inadequacy of wh-phrases, i.e. I assume that wh-phrases have a strong focus feature, which needs to be checked overtly, in Bošković (1999) I state the focus requirement as an inadequacy of the target of movement, giving the target head the specification

¹⁵This is a very interesting piece of data, given that when a lower wh-phrase moves across a higher wh-phrase, normally only an SP answer is allowed in SC, as noted in Bošković (2003a). Thus, (i) can only have an SP answer.

- (i) Šta je ko kupio?
what is who bought
'Who bought what?'

The reason for this, discussed in Bošković (2003a) (following Hagstrom 1998; for relevant discussion see also Grohmann 2003), is that if the Q morpheme is merged with the lower wh-phrase, which is normally what happens in PL constructions, the lower wh-phrase carries the Q morpheme under focalization, so that after this movement the Q morpheme ends up c-commanding both wh-phrases, which is the configuration that results in SP answers. (As discussed in Hagstrom 1998 and Bošković 2003a, there is crosslinguistic variation with respect to the strandability of the Q morpheme. Apparently, the Q morpheme has to stay with the restriction in (12).)

¹⁶For discussion of why some kind of wh-fronting is necessary in SC, see Bošković (2002a).

Attract-all for focus, which is satisfied by attracting all focalized elements.¹⁷ Under both of these analyses, all orders of movement of wh-phrases are equally economical when it comes to satisfying the focus requirement. I will proceed here by adopting the Attract-all analysis. In contrast to focus movement, the attractor for wh-movement is specified as Attract-1wh. To illustrate all of this with actual examples, English examples in (13) involve only wh-movement, with the attractor specified as Attract-1 wh, hence the highest wh-phrase moves to check the +wh-feature of C.

- (13) a. Who_i did John tell t_i that Mary bought what?
 b. *What_i did John tell who that Mary bought t_i?

SC (2a-b) involve pure focus movement. The attractor is specified as Attract-all-focus, which means that both wh-phrases have to undergo focus movement. The focus requirement is checked in the same way in terms of nodes crossed regardless of the order of movement of the wh-phrases. In Bulgarian (1), one wh-phrase undergoes wh-movement. Moreover, both wh-phrases are licensed for focus by the interrogative C. When it comes to the focus requirement, the order of movement is irrelevant, as discussed above. However, to check the +wh-feature of C in the most economical way, the highest wh-phrase must move first. (I am following here the standard assumption, originally adopted in Rudin 1988, that the first wh-phrase in the linear order is the one that moves first). Note that since, in contrast to wh-movement, pure focus movement is not subject to Superiority for reasons discussed above, if there are three wh-phrases in a multiple question in Bulgarian, the order of the second and the third wh-phrase is expected to be free. Bošković (1997, 1999) shows that, as expected, the second and the third wh-phrase, which undergo pure focus movement, are indeed freely ordered. The data illustrating this are given in (14)-(15). The examples show that the indirect object must move before the direct object when it is the highest wh-phrase before wh-fronting, as in (14), but not when it is not, as in (15), where the highest wh-phrase is *koj*.¹⁸

- (14) a. Kogo kakvo e pital Ivan?
 whom what is asked Ivan
 ‘Who did Ivan ask what?’
 b. ?*Kakvo kogo e pital Ivan?
 (15) a. Koj kogo kakvo e pital?
 who whom what is asked
 ‘Who asked who what?’
 b. Koj kakvo kogo e pital?

In Bošković (2002a), I took the focus requirement to be the defining property of MWF languages,

¹⁷The underlying assumption here is that heads can differ in how many times they can attract a given feature. Assuming that there is no place for counting in natural language, I suggested that we can have either Attract-1F or Attract-all-F heads. The latter attracts all elements specified with the feature F (which are not already located in an F feature checking position).

¹⁸Notice the parallelism between the wh-phrases in SC (2) and non-initial fronted wh-phrases in Bulgarian with respect to Superiority, more precisely, the lack of Superiority effects. The parallelism confirms Bošković’s (2002a) analysis, where movement of the first wh-phrase in Bulgarian differs from the movement of the second and the third wh-phrase, which are in turn the same as the movement of all the wh-phrases in SC (2). Recall that, according to Bošković (2002a), only the first Bulgarian wh-phrase undergoes wh-movement, other fronted wh-phrases in the Bulgarian and SC examples in question undergoing focus movement. (The reader is referred to Richards 2001 for an alternative analysis of Superiority effects in SC and Bulgarian. As noted in Bošković (1998b), the analysis works for Bulgarian, but fails to account for the behavior of SC with respect to Superiority.)

i.e. what characterizes MWF languages is the presence of an Attract-all-Focus head. While it is clear that we need the presence of an Attract-all-F head in order to get MWF (this is the way to force all wh-phrases to move), a question arises whether the relevant feature has to be the +focus feature. Could the relevant feature, for example, be the +wh feature? What would be the difference between an Attract-all-Focus and an Attract-all-wh language? Before answering the question, let us review the behavior of SC Attract-all-Focus constructions. SC constructions with the abstract pattern in (16) prior to wh-movement instantiate the Attract-all-Focus option.

(16) [_{FocP} [_{VP} non-D-linked wh... non-D-linked wh]]

Since the wh-phrases are focused (i.e. non-D-linked) they all have to move. Since there is no wh-movement, the SP reading is available. Moreover, since Attract-all-F heads do not induce Superiority effects, the structure does not lead to Superiority effects. Consider now how an Attract-all-wh MWF language would look like. Since the language would have wh-movement, SP readings should be disallowed. However, since the wh-movement inducing head is an Attract-all head, no superiority effects should be detected.¹⁹ So, an Attract-all-wh language, call it Y, should look like this: no superiority effects and no SP readings. There is a caveat though: recall that, as discussed above, SP answers can be blocked even in a language without overt wh-movement. Given this, we are still not completely ruling out the possibility of Y being an Attract-all-Focus language, like Russian (recall that some speakers of Russian also disallow SP readings, so Y so far looks exactly like this variety of Russian). There is, however, another difference between an Attract-all-Focus and the hypothetical Attract-all-wh language. As discussed in Bošković (2002a) (see also Reinhart 1997), due to their semantic properties (because their range of reference is discourse-given), D-linked wh-phrases do not undergo focus movement. As a result, since the Attract-all feature of Slavic MWF languages is a focus feature, D-linked wh-phrases are not forced to move—they can stay in situ. Compare in this respect, Bulgarian (17a) with (17b).²⁰

- (17) a. Koj e kupil koja kniga?
 who is bought which book
 ‘Who bought which book?’
 b. *Koj e kupil kakvo?
 who is bought what
 c. cf. Koj kakvo e kupil?

Returning now to the hypothetical Attract-all-wh language Y, in contrast to Attract-all-Focus languages, in this language even D-linked wh-phrases should be forced to move, since the Attract-all-wh head should not care about whether a wh-phrase is D-linked or not. So, the difference between an Attract-all-wh and an Attract-all-Focus MWF language would be that in the former, all wh-phrases, including D-linked wh-phrases, would have to move. In this respect, the following data from Hungarian, a MWF language, may be relevant. (The data were provided by Katalin É.Kiss (p.c.). Similar data are discussed in É.Kiss 2002.)

¹⁹Recall that Attract-all-F heads do not induce Superiority effects regardless of the precise identity of the F feature.

²⁰Throughout the paper, I am assuming non-D-linking reading for wh-phrases that are not inherently D-linked. Note that the D-linked wh-phrase in situ in (17a) can move. However, as discussed in Bošković (2002a), when it does move it moves to a lower position than the second wh-phrase in (17c), i.e. it does not undergo focus movement. (Some MWF languages, e.g. Yiddish (see Diesing 2003), do not have the movement operation in question. As a result, Yiddish does not allow the D-linked wh-phrase in (17a) to move.)

- (18) a. **Ki irt mit?*
 who wrote what
 b. *Ki mit irt?*
 c. *Mit ki irt?*
 d. **Ki irta melyik levelet?*
 who wrote which letter
 e. *Ki melyik levelet irta?*
 f. *Melyik levelet ki irta?*

(18) indicates that, in contrast to Slavic, both D-linked and non-D-linked wh-phrases have to move in Hungarian,²¹ i.e. Hungarian does not show the D-linked/non-D-linked wh-phrase distinction with respect to MWF that Slavic language exhibit, which can be accounted for if Hungarian is an Attract-all-wh language, rather than an Attract-all-Focus language (a suggestion along these lines is in fact made in Surányi 2005²²). It is also well-known that Hungarian MWF questions disallow SP answers and do not show Superiority effects (see, e.g., Surányi 2005 and references therein; cf. also (18b-c) for the lack of Superiority effects), which, as discussed above, is exactly the behavior expected of an Attract-all-wh language. However, Hungarian is standardly analyzed in the literature as a non-wh-movement language, i.e. the standard analysis (see, e.g., É.Kiss 1993, 2002, Horvath 1998, Puskás 2000, Lipták 2001) holds that the wh-phrase that is closest to the verb in Hungarian MWF questions undergoes focus movement, with other wh-phrases undergoing movement that other, non-wh quantifiers undergo (see, however, Surányi 2005 for arguments against this analysis). A question then arises whether Hungarian constructions under consideration can be reanalyzed as involving wh-movement.²³

There is, however, another option here. Reglero (2003, 2004) argues that in Basque, another MWF language, both D-linked and non-D-linked wh-phrases must move.²⁴ However, she argues that they both move to a discourse related projection below CP, which she refers to as Δ P, hosting both topicalized and focused elements.²⁵ Her underlying assumption, also argued for in den Dikken and Giannakidou (2002), Grohmann (1998), and Wu (1999), among others, is that D-linked wh-phrases are actually topics. Reglero argues that the discourse related projection, more precisely, its head Δ , is specified with an Attract-all-discourse property, attracting both focalized (non-D-linked) and topicalized (D-linked) wh-phrases.²⁶ Reglero also observes that SP readings are available in Basque, which she takes as an argument in favor of her analysis, on

²¹Notice that Hungarian often allows both the single wh-fronting and the MWF option. For obvious reasons, I am focusing here on a context in which the MWF option is forced (see É.Kiss 2002). What is important is that we do not find here a difference between D-linked and non-D-linked wh-phrases, in contrast to Slavic, where (18d) would be acceptable.

²²See also Diesing (2003), who investigates a similar option for Yiddish.

²³From the perspective of Bošković (2002a), the fact that the verb-adjacent wh-phrase in (18e) is D-linked may be taken as an argument that the wh-phrase in question does not undergo focus movement, contrary to what is assumed in the standard analysis of Hungarian. Notice also that Hungarian passes a number of Rudin's (1988) tests for locating all fronted wh-phrases in SpecCP (i.e. the Bulgarian pattern). Thus, as in Bulgarian, nothing can intervene between fronted wh-phrases in Hungarian (see Puskás 2000); again as in Bulgarian, wh-movement out of wh-islands and multiple wh-fronting out of a single declarative CP is allowed in Hungarian (see Horvath 1998). I leave for another occasion addressing issues that arise under the multiple SpecCP analysis of Hungarian MWF.)

²⁴See, however, Reglero's work for some differences in the syntactic behavior of D-linked and non-D-linked wh-phrases.

²⁵Uriagereka (1995), Boeckx and Stjepanović (2000), and Lambova (2002, 2004) also argue for the existence of a discourse-related functional projection that hosts both topicalized and focalized elements.

²⁶Reglero implements this through a combination of the multiple Spec analysis (see Koizumi 1994, Pesetsky 2000, and Richards 2001) and Rudin's (1988) rightward adjunction analysis of MWF.

which Basque wh-phrases move to a projection below CP. Interestingly, she also observes that there is speaker variation regarding the availability of SP readings. Recall, however, that SP readings can be blocked even in a language without overt wh-movement. We may then simply appeal to one of the options discussed above to block the SP reading option for those speakers of Basque who disallow it, keeping to the Attract-all-discourse, no-wh-movement analysis even for these speakers. This analysis can also be extended to Hungarian, where the SP reading option is apparently uniformly unavailable in MWF questions.²⁷ Alternatively, perhaps the Basque variety that disallows SP readings indeed involves wh-movement, with an Attract-all-wh strategy, an option hinted above with respect to Hungarian. Due to the difficulty in conclusively teasing apart the Attract-all-discourse and the Attract-all-wh options it is then not completely clear whether the hypothetical language Y, where C would be specified with an Attract-all-wh property, inducing true multiple wh-movement, exists. If it does not, we could conclude that the Attract-all mechanism is a discourse-related property, associated with discourse-related head. It is, however, worth noting that the Attract-all mechanism has been appealed to in other domains, e.g. in the domain of N-words (to account for multiple movement of negative constituents, see Brown in press and Watanabe 2004), V-movement (to account for verbal clustering in languages like Dutch, see Bošković 1999), and clitic movement (to account for clitic clustering in languages like Bulgarian, see Bošković 2001:186, 2002b). If these analyses are on the right track, then the Attract-all mechanism may not be confined to discourse related properties.

So, where are we? Assuming Reglero's analysis of Basque to be correct, we have Attract-all-Focus and Attract-all-discourse MWF languages, while it is not clear whether there are true Attract-all-wh MWF languages, where the Attract-all head would be C. We have seen that the types in question differ with respect to the kind of wh-phrases that are subject to MWF and the availability of SP readings.²⁸ So, while in the first type only non-D-linked wh-phrases are subject to obligatory MWF, in the latter type(s) both D-linked and non-D-linked wh-phrases are subject to it. As noted by Reglero, it remains to be seen whether there are languages in which only D-linked wh-phrases are subject to obligatory MWF. Such a language would presumably be an Attract-all-Topic language.

References

- Boeckx, Cedric. and Sandra Stjepanović 2000. The clitic/wh-connection: Evidence for unselective attraction. In *Formal Approaches to Slavic Linguistics: The Philadelphia Meeting 1999*, ed. Tracy Holloway King and Irina Sekerina, 22-40. Ann Arbor: Michigan Slavic Publications.
- Bošković, Željko. 1997. On certain violations of the Superiority Condition, AgrO, and economy of derivation. *Journal of Linguistics* 33: 227-254.
- Bošković, Željko. 1998a. LF movement and the Minimalist Program. In *Proceedings of the North East Linguistic Society* 28, 43-57. GLSA, University of Massachusetts, Amherst.
- Bošković, Željko. 1998b. Wh-movement and wh-phrases in Slavic. Paper presented at the Comparative Slavic Morphosyntax Workshop, Bloomington, Indiana. (downloadable at

²⁷Surányi (2005) in fact suggests an analysis of Hungarian that is similar to Reglero's analysis of Basque, i.e. he suggests that a head lower than C is specified with an Attract-all-wh property. The difference here is mainly terminological—Reglero appears to have been assuming, as I am in this paper, that the Attract wh can only be a property of wh-C. What is important for both Reglero and Surányi is the existence of a head lower than C that attracts all wh-phrases, regardless of whether they are D-linked or not. The terminology regarding the precise identity of the Attract-all feature in question is less important.

²⁸Recall that the combination of an Attract-all-F property with an Attract-1F property leads to Superiority effects (more precisely, selective superiority effects, where the highest wh-phrase must move first). Thus, as discussed above, Bulgarian combines Attract-all-Focus with Attract-1wh. Reglero demonstrates that Basque also exhibits Superiority effects. She argues that Basque combines Attract-all-discourse with Attract-1Topic.

<http://www.indiana.edu/~slavconf/linguistics/index.html>)

- Bošković, Željko. 1998c. Multiple wh-fronting and economy of derivation. In *Proceedings of the West Coast Conference on Formal Linguistics* 16, 49-63. Stanford, Calif.: CSLI Publications.
- Bošković, Željko. 1999. On multiple feature-checking: Multiple wh-fronting and multiple head-movement. In *Working Minimalism*, ed. Samuel Epstein and Norbert Hornstein, 159-187. Cambridge, Mass: MIT Press.
- Bošković, Željko. 2000. Sometimes in SpecCP, sometimes in-situ. In *Step by step: Essays on minimalist syntax in honor of Howard Lasnik*, ed. Roger Martin, David Michaels, and Juan Uriagereka, 53-87. Cambridge, Mass.: MIT Press.
- Bošković, Željko. 2001. *On the nature of the syntax-phonology interface: Cliticization and related phenomena*. Amsterdam: Elsevier Science.
- Bošković, Željko. 2002a. On multiple wh-fronting. *Linguistic Inquiry* 33: 351-383.
- Bošković, Željko. 2002b. Clitics as non-branching elements and the Linear Correspondence Axiom. *Linguistic Inquiry* 33: 329-340.
- Bošković, Željko. 2003a. On the interpretation of multiple questions. *Linguistic Variation Yearbook* 1: 1-15.
- Bošković, Željko. 2003b. On wh-islands and obligatory wh-movement contexts in South Slavic. In *Multiple wh-fronting*, ed. Cedric Boeckx and Kleanthes Grohmann, 27-50. Amsterdam: John Benjamins.
- Bošković, Željko. 2005a. On the locality of left branch extraction and the structure of NP. *Studia Linguistica* 59: 1-45.
- Bošković, Željko. 2005b. On the operator freezing effect. Ms., University of Connecticut, Storrs.
- Brown, Sue. in press. Negative concord in Slavic and Attract all-F. In *Negation in Slavic*, ed. Sue Brown and Adam Przepiórkowski. Bloomington: Slavica.
- Citko, Barbara, and Kleanthes Grohmann. 2001. The (non)-uniqueness of multiple wh-fronting: German=Bulgarian. In *Proceedings of Formal Approaches to Slavic Linguistics: The Indiana Meeting 2000*, ed. Steven Franks, Tracy Holloway King and Michael Yadroff, 117-136. Ann Arbor: Michigan Slavic Publications.
- Den Dikken, Marcel, and Anastasia Giannakidou. 2002. From hell to polarity. *Linguistic Inquiry* 33: 31-61.
- Diesing, Molly. 2003. On the nature of multiple fronting in Yiddish. In *Multiple wh-fronting*, ed. Cedric Boeckx and Kleanthes Grohmann, 51-76. Amsterdam: John Benjamins.
- É.Kiss, Katalin. 1993. Wh-movement and specificity. *Natural Language and Linguistic Theory* 11: 85-120.
- É. Kiss, Katalin. 2002. *Hungarian syntax*. Cambridge: Cambridge University Press.
- Golden, Marija. 1997. Multiple wh-questions in Slovene. In *Formal Approaches to Slavic Linguistics: The Cornell Meeting 1995*, ed. Wayles Browne, Ewa Dornisch, Natasha Kondrashova, and Draga Zec, 240-266. Ann Arbor: Michigan Slavic Publications.
- Grebenyova, Lydia. 2006. Multiple interrogatives: Syntax, semantics, and learnability. Doctoral dissertation, University of Maryland, College Park.
- Grohmann, Kleanthes. 1998. Syntactic inquiries into discourse restrictions on multiple interrogatives. *Groninger Arbeiten zur germanistischen Linguistik* 42: 1-60.
- Grohmann, Kleanthes. 2003. German is a multiple wh-fronting language. In *Multiple wh-fronting*, ed. Cedric Boeckx and Kleanthes Grohmann, 99-130. Amsterdam: John Benjamins.
- Hagstrom, Paul. 1998. Decomposing questions. Doctoral dissertation, MIT, Cambridge, Mass.
- Horváth, Julia. 1998. Multiple wh-phrases and the wh-scope-marker strategy in Hungarian interrogatives. *Acta Linguistica Hungarica* 45: 31-60.
- Kochovska, Slavica. 2006. (Non) D-linking at the Macedonian left periphery. Paper presented

- at Formal Approaches to Slavic Linguistics 15, University of Toronto, May 2006.
- Koizumi, Masatoshi. 1994. Layered specifiers. In *Proceedings of the North East Linguistic Society* 24, 255-269. GLSA, University of Massachusetts, Amherst.
- Lambova, Mariana. 2002. On A'-movements in Bulgarian and their interaction. *The Linguistic Review* 18:327-374.
- Lambova, Mariana. 2004. On information structure and clausal architecture: Evidence from Bulgarian. Doctoral dissertation, University of Connecticut, Storrs.
- Lipták, Anikó. 2001. On the syntax of wh-items in Hungarian. Doctoral dissertation, Leiden University, Leiden.
- Meyer, Roland. 2003. On multiple wh-fronting and wh-clustering in Czech. In *Formal Approaches to Slavic Linguistics: The Amherst Meeting 2002*, ed. Wayles Browne, Ji-Yung Kim, Barbara Partee, and Robert Rothstein, 393-412. Ann Arbor: Michigan Slavic Publications.
- Park, Bum-Sik. 2005. Focus, parallelism, and identity in ellipsis. Doctoral dissertation, University of Connecticut, Storrs.
- Pesetsky, David. 2000. *Phrasal movement and its kin*. Cambridge, Mass.: MIT Press.
- Puskás, Genoveva. 2000. *Word order in Hungarian: The syntax of A-bar positions*. Amsterdam: John Benjamins.
- Reglero, Lara. 2003. Non-wh-fronting in Basque. In *Multiple wh-fronting*, ed. Cedric Boeckx and Kleantes Grohmann, 187-227. Amsterdam: John Benjamins.
- Reglero, Lara. 2004. On A'-dependencies in Spanish and Basque. Doctoral dissertation, University of Connecticut, Storrs.
- Reinhart, Tanya. 1997. Interface economy: Focus and markedness. In *The role of economy principles in linguistic theory*, ed. Chris Wilder, Hans-Martin Gärtner, and Manfred Bierwisch, 146-169. Berlin: Akademie Verlag.
- Richards, Norvin. 2001. *Movement in language: Interactions and architectures*. Oxford: Oxford University Press.
- Rudin, Catherine. 1988. On multiple questions and multiple wh-fronting. *Natural Language and Linguistic Theory* 6: 445-501.
- Stepanov, Arthur. 1998. On wh-fronting in Russian. In *Proceedings of the North East Linguistic Society* 28, 453-467. GLSA, University of Massachusetts, Amherst.
- Surányi, Balázs. 2005. Triggering wh-fronting. In *Approaches to Hungarian Vol. 9: Papers from the Düsseldorf Conference*, ed. Christopher Piñón and Siptár Péter, 231-259. Budapest: Akadémiai Kiadó.
- Uriagereka, Juan. 1995. Aspects of the syntax of clitic placement in Western Romance. *Linguistic Inquiry* 26: 79-123.
- Watanabe, Akira. 2004. The genesis of negative concord: Syntax and morphology of negative doubling. *Linguistic Inquiry* 35: 559-612.
- Wu, Jianxin. 1999. Syntax and semantics of quantification in Chinese. Doctoral dissertation, University of Maryland, College Park.