On Wh-Islands and Obligatory Wh-Movement Contexts in South Slavic[*]

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The goal of this paper is to examine Wh-islands effects in Bulgarian and Serbo-Croatian (SC) and constructions in which SC must have Wh-movement. The starting point will be Rudin's (1988) seminal paper on the structure of multiple Wh-fronting (MWF) constructions in Bulgarian and SC. In section 1 of the paper I briefly summarize Rudin's (1988) analysis as well as a modification of Rudin's analysis of SC from my previous work (see Bošković 1997b, 1999, 2002a). In section 2 I turn my attention to Wh-islands in Bulgarian and SC. Although I will argue against Rudin's analysis of Wh-islands in the languages in question, which has served as a springboard for much recent work (see, for example, Richards 1997), I will end up endorsing the gist of Rudin's analysis of MWF, namely, that there are two basic patterns of MWF constructions — one where all Wh-phrases are located in SpecCP and one where at most one Wh-phrase is located in SpecCP. However, the distribution of the two patterns will be shown to be quite different from that put forward by Rudin. In particular, the former pattern will be shown to be available in SC in certain contexts, contrary to what Rudin argues. All the differences between Bulgarian and SC MWF constructions will be traced to a single difference in the lexical properties of the interrogative C, more precisely, the PF affix status of the Bulgarian interrogative C. Furthermore, it will be shown that Wh-islands do not provide evidence for the dichotomy of MWF constructions, as argued in Rudin (1988). In this respect, I will demonstrate that the resistance of Bulgarian to the Wh-Island Constraint should not be related to the possibility of MWF in this language. More generally, I will show that the possibility of MWF itself cannot provide an escape hatch from Wh-island effects, contrary to what is standardly assumed. The claim will be situated in a broader linguistic context and shown to receive ample empirical and theoretical support from a variety of sources, including quantifier raising and Superiority.

1. Structure of Multiple Wh-Fronting Constructions: Bulgarian vs. Serbo-Croatian

Rudin (1988) argues that in spite of the superficial similarity, Bulgarian and SC MWF constructions in (1)-(2) have very different structures.

(1) *Koj kakvo kupuva?* (Bulgarian)
who what buys
'Who buys what?'

(2) *Ko šta kupuje?* (SC)
who what buys
'Who buys what?'

Rudin argues that Bulgarian and SC MWF constructions differ in two respects: only in Bulgarian fronted Wh-phrases form a constituent and only Bulgarian allows more than one Wh-phrase to be located in SpecCP. Rudin assigns the structures in (3) to (1)-(2).

(3) a. [$_{CP}$ [$_{SpecCP}$ [$_{SpecCP}$ *Koj*] *kakvo*] [$_{C'}$ *kupuva*]]?
     b. [$_{CP}$ *Ko* [$_{C'}$ [$_{IP}$ *šta* [$_{IP}$ *kupuje*]]]]?

In Bošković (1997b, 1999, 2002a) I argue that there is even a deeper difference between Bulgarian and SC MWF constructions. In particular, I argue that SC questions like (2) do not have to involve Wh-movement at all, i.e. both Wh-phrases can be located lower than the CP projection. This claim can be easily incorporated into Rudin's analysis by pushing the first Wh-phrase in (3b) a notch lower, i.e. by adjoining it to IP instead of moving it to SpecCP. I show in Bošković (1997b, 1999, 2002a) that assuming that Bulgarian must, and SC does not have to, involve overt Wh-movement to SpecCP can help us account for the well-known fact, noted by Rudin, that Bulgarian and SC MWF constructions like (1) differ with respect to possibilities for ordering of fronted Wh-phrases. While in SC (2) and (4) the fronted Wh-phrases are freely ordered, in Bulgarian (1) and (5), the nominative Wh-phrase has to precede the accusative Wh-phrase, which has been successfully analyzed in the literature in terms of Superiority.[1]

(4) *Šta   ko   kupuje?*   (SC)
     what who buys
     'Who buys what?'

(5) **Kakvo koj   kupuva?*   (Bulgarian)
      what   who buys
     'Who buys what?'

Given the claim that Bulgarian (1) and (5) but not SC (2) and (4) must involve Wh-movement, which I take to be movement motivated by checking the +Wh-feature of C, the seemingly different behavior of Wh-movement in the two languages with respect to Superiority can be easily explained. Since the SC questions in (2)/(4) do not have to involve Wh-movement, they do not exhibit Superiority effects. Since the Bulgarian questions in (1)/(5) must involve Wh-movement they exhibit Superiority effects. Under this analysis, Wh-movement in Bulgarian and SC is well behaved with respect to Superiority — whenever Wh-movement takes place we get Superiority effects. (See Bošković 1999 for details of the analysis. See also Bošković 2002a for discussion of the nature of Wh-fronting in Slavic that does not involve Wh-movement. I argue that this movement involves focalization, i.e. it is an instance of focus movement. Note that the second Wh-phrase in Bulgarian (1) and (5) also undergoes focus movement. Only the first Wh-phrase undergoes Wh-movement, i.e. checks the strong +Wh-feature of C.)

The above analysis is confirmed by the selectivity of Superiority effects in Bulgarian. In Bošković (1997a) I show that the highest Wh-phrase prior to Wh-fronting must move first to SpecCP in Bulgarian, the order of movement of other Wh-phrases to SpecCP being free. The data illustrating this are given in (6)-(9). (6)-(7) show that the indirect object must move before the

direct object when it is the highest Wh-phrase before Wh-fronting, as in (6), but not when it is not, as in (7), where the highest Wh-phrase is *koj*. (Recall that the linear order of Wh-phrases indicates the order of movement.) Additional data making the same point are given in (8)-(9). The accusative Wh-phrase must move to SpecCP before the adjunct Wh-phrase when it is the highest Wh-phrase prior to Wh-movement, as in (8), but not when a higher Wh-phrase is present, as in (9).[2]

(6) a. *Kogo kakvo e pital   Ivan?*
         whom what is asked Ivan
         'Who did Ivan ask what?'
     b. ?**Kakvo kogo e pital Ivan?*

(7) a. *Koj kogo   kakvo e pital?*
         who whom what   is asked
         'Who asked who what?'
     b. *Koj kakvo kogo e pital?*

(8) a. *Kogo kak e tselunal Ivan?*
         whom how is kissed   Ivan
         'How did Ivan kiss whom?'
     b. ?**Kak kogo e tselunal Ivan?*

(9) a. *Koj kogo   kak e tselunal?*
         who whom how is kissed
         'Who kissed whom how?'
     b. *Koj kak kogo e tselunal?*

Notice the parallelism between the Wh-phrases in SC (2) and (4) and non-initial fronted Wh-phrases in Bulgarian with respect to Superiority, more precisely, the lack of Superiority effects. The parallelism confirms the above 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)/(4). In other words, since the second and third movements in Bulgarian (6)-(9) and both movements in SC (2)/(4) are the same (neither has to involve checking the strong +Wh-feature of C; as shown in Bošković 2002a, they can both be pure focus movement), it is not surprising that they behave in the same way with respect to Superiority, differing in this respect from the first movement in (6)-(9), which has to involve checking the strong +Wh-feature of C. The data show that only the Wh-phrase that checks the strong +Wh-feature of C (which means only one Wh-phrase) is subject to Superiority, Wh-phrases undergoing pure focus movement being insensitive to it. Bošković (1999) gives an economy-based explanation of this fact applicable to both SC and Bulgarian that is based on certain differences in formal properties of focus and Wh-movement.[3]

Based on the above data, I conclude in Bošković (1999, 2002a) that the distribution of Superiority effects in Bulgarian and SC provides evidence that in contrast to Bulgarian questions,

SC questions like (2) and (4) do not have to involve overt Wh-movement at all. For another argument to this effect concerning the interpretation of multiple questions in Bulgarian and SC, the reader is referred to Bošković (1999, 2002a).

In Bošković (2002b) (see also Bošković 2001a,b), I attribute the difference between Bulgarian and SC with respect to the obligatoriness of Wh-movement to the timing of interrogative C-insertion in Bulgarian and SC: interrogative C, whose presence triggers immediate Wh-movement, must be inserted in overt syntax in Bulgarian, but not in SC, where it can be inserted in LF, hence Wh-movement must take place overtly in Bulgarian, but not in SC.[4] Why is there a difference in the timing of C-insertion between the two languages? I attribute it to a PF requirement on the interrogative C which is present in Bulgarian, but lacking in SC. In particular, I suggest that interrogative C is a PF verbal affix in Bulgarian, but not in SC. As a result, interrogative C must be inserted into the structure in overt syntax in Bulgarian, but not necessarily in SC. If interrogative C were to be inserted into the structure in LF in Bulgarian, the PF requirement could not be satisfied and the derivation would crash.[5] Independent evidence for the difference between Bulgarian and SC is provided by the fact that Inversion is obligatory in Bulgarian, but not in SC questions. More precisely, the fact that interrogative C must be adjacent to a verb in PF in Bulgarian, but not in SC indicates that the C is a verbal affix in Bulgarian, but not in SC.[6]

(10) a.   *Kakvo toj dade na Petko?   (Bulgarian)
       what he gave to Petko
       'What did he give to Petko?'

b.   Kakvo dade toj na Petko?

c.   Šta   on dade Ivanu?   (SC)
       what he gave Ivan
       'What did he give to Ivan?'

We thus have a uniform account of the different behavior of Bulgarian and SC with respect to Superiority and Inversion.

As discussed in Bošković (1997b, 2002a), under the above analysis SC actually can have overt Wh-movement in constructions like (2). Whether or not Wh-movement takes place overtly in (2) depends on whether or not interrogative C is inserted overtly — if it is, Wh-movement takes place overtly; if it is not, it does not. Below, I discuss some constructions in which Wh-movement indeed takes place overtly in SC.[7]

Having discussed my modification of Rudin's analysis of SC which allows for the possibility of not having a Wh-phrase in SpecCP in overt syntax in SC questions (in fact, not having a CP in overt syntax at all), I return now to Rudin (1988). Rudin gives several arguments supporting her proposal for the structure of MWF constructions in Bulgarian and SC, which posits a difference between the two languages with respect to the constituency of fronted Wh-phrases and the ability to multiply fill an interrogative SpecCP. Concerning the constituency of fronted Wh-phrases, Rudin (1988) claims that SC allows parentheticals to intervene between fronted Wh-phrases, which is not possible in Bulgarian.

(11) *Ko, po   tebi, šta kupuje?*   (SC)
      who according.to you what buys
      'Who, according to you, is buying what?'

(12) ?**Koj, spored   tebe, kakvo kupuva?*   (Bulgarian)
        who according.to you what   buys

Rudin argues that the impenetrability of fronted Wh-phrases in Bulgarian indicates that they form a constituent. She interprets the possibility of lexical material occurring between fronted Wh-phrases in SC as indicating that fronted Wh-phrases do not form a constituent in this language.[8]

It is worth noting, however, that (12) could also be accounted for under the multiple-specifiers analysis of Bulgarian MWF, proposed in Koizumi (1994) and further developed in Richards (1997) and Pesetsky (2000). On this analysis, fronted Wh-phrases in Bulgarian are all located in SpecCP, as in Rudin's analysis. However, they do not form a constituent in that position, contra Rudin (1988). Rather, each Wh-phrase is located in a distinct Spec. Under this analysis (12) can be ruled out due to a feature clash: a [-Wh] element is located in an interrogative [+Wh] projection. From this perspective, (12) would be interpreted as evidence that all Bulgarian Wh-phrases are located in interrogative SpecCP, not necessarily that they form a constituent in that position.

2. Wh-Islands

I now turn to an argument for Rudin's structure for Bulgarian and SC questions which has incited a great deal of follow-up work (see especially Richards 1997) and which is also the topic of this paper. The argument concerns extraction out of Wh-islands. Rudin claims that Bulgarian allows, and SC disallows, extraction out of Wh-islands based on constructions like (13).

(13) a. *Vidjah edna kniga, kojato$_i$ se   čudja   koj znae   koj prodava* t$_i$.
          saw-1S a   book   which REFL wonder-1S who knows who sells
          'I saw a book which I wonder who knows who sells.'   (Bulgarian)
      b. **Vidio sam knjigu koju$_i$ se   pitam   ko zna   ko prodaje* t$_i$.
           seen am   book   which REFL wonder-1S who knows who sells
          'I saw a book which I wonder who knows who sells.'   (SC)

Rudin interprets the data in (13) as indicating that, in contrast to SC, Bulgarian allows more than one Wh-phrase to be located in SpecCP in overt syntax. As a result, *kojato* in the Bulgarian example can escape the Wh-Island Constraint by moving through the embedded SpecCPs, occupied by *koj*. Since SC does not allow more than one Wh-phrase in SpecCP overtly, the escape hatch from the Wh-Island Constraint is not available in SC.[9]

The relevant facts are, however, more complex than (13) indicates. In particular, the status of Bulgarian with respect to the Wh-Island Constraint is not completely clear. Rudin herself

notes that, in contrast to relativization, Bulgarian exhibits Wh-island effects in questions. Rudin's example in (14) illustrates this. Rudin also observes that (15), containing a D-linked Wh-phrase, contrasts with (14). Based on this, Rudin concludes that questioning out of a Wh-island in Bulgarian is allowed with D-linked, but not with non-D-linked Wh-phrases.[10]

(14) *$Kakvo_i$ se   čudiš   koj znae koj prodava t_i?
         what   REFL wonder-2S who knows who sells
      'What do you wonder who knows who sells?'

(15) ?$Koja$ ot tezi $knigi_i$ se   čudiš   koj znae koj prodava t_i?
         which of these books REFL wonder-2S who knows who sells
      'Which of these books do you wonder who knows who sells?'

The literature on Wh-islands in Bulgarian generally focuses on argument extraction and ignores adjunct extraction.[11] The facts concerning adjunct extraction flatly contradict the claim that Bulgarian is not sensitive to the Wh-Island Constraint. As shown in (16), extraction of adjuncts out of Wh-islands leads to full unacceptability regardless of whether we are dealing with relativization or questioning. D-linking is also irrelevant.

(16) a.   *pričinata, poradi $kojato_i$ [Ivan znae dali   Boris e zaminal t_i]
              reason.the for   which   Ivan knows whether Boris is left
           'the reason for which Ivan knows whether Boris left'
      b.   *Zašto/poradi kakva pričina znae   [dali   Boris e zaminal t_i]?
            why   for   which reason knows   whether Boris is left
           'Why/for which reason does he know whether Boris left?'
      c.   cf. Zašto/poradi kakva pričina misliš [če Boris e zaminal t_i]?
              why   for   which reason think-2S that Boris is left
           'Why/for which reason do you think that Boris left?'

These facts indicate that Wh-islands are islands in Bulgarian. Consequently, any analysis that completely voids Bulgarian of the Wh-island effect must be on the wrong track.

     Note also that Swedish, a language that does not allow MWF, behaves in the same way as Bulgarian with respect to Wh-islands. Thus, argument extraction out of Wh-islands in Swedish is possible with relativization and D-linking questions, but not with non-D-linking questions, as observed in Comorovski (1996). With adjuncts, extraction out of Wh-islands is never possible, which is generally ignored in the literature.[12]

(17) a.   *Vad frågade Jan vem som skrev?
              what asked   John who that wrote
           'What did John ask who wrote?'   (Maling 1978)
      b.   Det är melodin, som Jan frågade vem som skrev.
           this is song-DEF that John asked   who that wrote
           'This is the song that John asked who wrote.'   (Maling 1978)

c. *Vilken film var det du gärna ville veta vem som hade regisserat?*
which film was it you gladly wanted know-INF who that had directed
'Which film did you want to know who had directed?' (Engdahl1986)

d. **Varför/av vilket skäl undrar han* [*vem som lagade bilen* t]?
why/of which reason wonder-3S he who that fixed car-DEF
'Why/for which reason does he wonder who fixed the car?'

e. **orsaken varför han undrar* [*vem som lagade bilen* t]
reason-DEF why he wonder-3S who that fixed car-DEF
'the reason why he wonders who fixed the car'

The fact that Bulgarian, a MWF language, and Swedish, a non-MWF language, exhibit the same behavior with respect to Wh-islands indicates that an analysis that crucially relates the possibility of extraction out of Wh-islands in certain contexts in Bulgarian to the possibility of MWF is on the wrong track.

SC confirms this conclusion. As noted in Bošković (1997b, 2002a), SC questions must involve Wh-movement in certain contexts. This happens in the contexts in which LF C-insertion, which is a prerequisite for the no-overt-Wh-movement derivation, is blocked.[13] The contexts in question include embedded questions, where LF C-insertion is blocked because it would involve lexical insertion in the middle of the tree (Merger is allowed to take place only at the root of the tree, i.e. it must expand the tree) and questions involving the phonologically overt complementizer *li*, which, being phonologically realized, obviously must enter the structure overtly. In Bošković (1997b, 2002a) I give two additional contexts in which Wh-movement must take place in SC, namely, long-distance and topicalization questions, and Stjepanović (1999a,b) provides another context of this type involving sluicing (see these works for explanation why the LF C-insertion derivation is blocked in these contexts). All the contexts in question exhibit Superiority effects, as expected given that they involve overt Wh-movement. In this respect they contrast with constructions like (2) and (4), where nothing blocks LF C-insertion, hence overt Wh-movement is not forced. I give here examples from Bošković (2002a) concerning embedded, long-distance, *li*, and topicalization questions.[14]

(18) a. [*Ko koga voli*], *taj o njemu i govori.*
who whom loves that-one about him even talks
'Everyone talks about the person they love.'

b. ?*[*Koga ko voli*], *taj o njemu/o njemu taj i govori.*

(19) a. ?*Ko koga tvrdiš da je istukao?*
who whom claim-2S that is beaten
'Who do you claim beat whom?'

b. **Koga ko tvrdiš da je istukao?*

(20) a. (?)*Ima ko šta da ti proda.*
has who what PRT you sells
'There is someone who can sell you something.'

       b.   *Ima šta ko da ti proda.*

(21) a.   *Ko li koga voli?*
           who Q whom loves
           'Who on earth loves whom?'
      b.   *Koga li ko voli?*

(22) a.   *Tom čoveku, ko je šta poklonio?*
           that man who is what bestowed
           'On that man, who bestowed what?'
      b.   ??*Tom čoveku, šta je ko poklonio?*

It is worth noting that even in the contexts where overt C-insertion and Wh-movement must take place, Inversion is still not required, as expected given that interrogative C is not a PF affix in SC. As a result, its presence in the structure does not require Inversion.

(23) *Tom čoveku, šta Jovan poklanja?*
       that man what John bestows
       'On that man, what is John bestowing?'

Notice also that the contexts in question exhibit selective Superiority effects, just like Bulgarian questions. Recall that, as demonstrated in (6)-(9), only the first Wh-phrase in Bulgarian questions is subject to Superiority effects, i.e. the highest Wh-phrase prior to Wh-fronting must move first to SpecCP in Bulgarian, the order of movement of other Wh-phrases to SpecCP being free. Interestingly, as discussed in Bošković (2002a), the contexts in which SC must have Wh-movement also display selective Superiority effects: the highest Wh-phrase prior to movement is first in the linear order, the order of other Wh-phrases being free. This is illustrated with respect to existential embedded questions in (24) (see also Stjepanović 1999a,b for sluicing).

(24) a.   ?*Ima kome kako da pomogne.*
            has whom how PRT helps
           'S(he) has someone to help somehow.'
      b.   *Ima kako kome da pomogne.*
      c.   ?*Ima ko kako kome da pomogne.*
            has who how whom PRT helps
           'There is someone who can somehow help somebody.'

The parallelism suggests that in the contexts in question, SC questions have the same structure as Bulgarian questions. In Bošković (2002a) I show that this is indeed the case: as in Bulgarian, in the contexts in question all fronted Wh-phrases are located in SpecCP. The claim is based on the fact that, like Bulgarian Wh-phrases, SC Wh-phrases in the contexts in question cannot be broken by parentheticals, which, according to Rudin's criteria indicates that they are all located in SpecCP. ((25) should be compared with (11).)[15]

(25) a.   *Ko, po   tebi, koga vjeruju   da tuče?*
        who according.to you who believe-3P that beats
        'Who, according to you, they believe beats who?

    b.   ??*Tom   čovjeku, ko,   po   tebi, šta   poklanja?*
          that-DAT man-DAT who-NOM according.to you what bestows
        'On that man, who, according to you, bestows what?'

    c.   *Ima ko, po   tebi, šta da mu proda.*
        has who according.to you what PRT him sells
        'There is someone who, according to you, can sell him something.'

    d.   *Ko, po   tebi, koga voli, taj   o   njemu i   govori.*
        who according.to you whom loves that-one about him   even talks
        'According to you, everyone talks about the person they love.'

    e.   *Ko, po   tebi, koga li voli?*
        who according.to you whom Q loves
        'Who on earth loves whom, according to you?'

It follows then that SC allows more than one Wh-phrase in SpecCP in the contexts in question. Significantly, even the contexts in question exhibit Wh-island effects. This is illustrated by (13b) and the examples in (26). (Given the above discussion, all the Wh-phrases in (13b) and (26), which involve embedded and long-distance questions, move to SpecCP. Furthermore, as discussed above, interrogative SpecCPs in (26) and (13b) can be multiply filled.)

(26) a.   *Koju od tih knjiga$_i$ se   pitaš   ko li prodaje* t$_i$?
        which of these books REFL wonder-2S who Q sells
        'Which of these books do you wonder who on earth sells?'

    b.   *Koje knjige$_i$ ima ko da   ti   proda* t$_i$?
        which books has who PRT you sells
        'Which books is there someone who can sell to you?'

Notice that, like (13b), (26a-b) are acceptable in Bulgarian:

(27) a.   *Koja kniga$_i$ ima koj da   ti   prodade* t$_i$?
        which book has who PRT you sells
        'Which book is there someone who can sell to you?'

    b.   *Koja ot tezi knigi$_i$ se   čudiš   koj li prodava* t$_i$?
        which of these books REFL wonder-3S who Q sells
        'Which of these books do you wonder who on earth sells.'

The SC data indicate that, contrary to what is standardly assumed (see, for example, Comorovski 1986, Rudin 1988, Koizumi 1995, and Richards 1997), the possibility of having more than one Wh-phrase in SpecCP at S-Structure does not make possible derivations in which a Wh-phrase moves through a filled SpecCP to escape Wh-island effects. This is not surprising in light of the

data discussed in Epstein (1992) and Bošković (1997c), which indicate that once an operator moves to an A'-position in which it can establish an operator (Op)-variable relation, it cannot undergo further A'-movement. In fact, in Bošković (1997c) I adopt the condition in (28), which would freeze a Wh-phrase entering an interrogative SpecCP in the interrogative SpecCP, thus preventing it from passing through it (for much relevant discussion, see also Epstein 1992 and references therein).

(28)   Op in Op-variable chains cannot undergo further movement.

The well-known ban on Quantifier Raising (QR) topicalized quantifiers illustrates the effect of (28). Lasnik and Uriagereka (1988) observe that *every problem* cannot have scope over *someone* in (29b) even for the speakers for whom it can scope over *someone* in (29a).

(29)   a.   Someone thinks that Mary solved every problem.
       b.   Someone thinks that every problem, Mary solved.

Every problem presumably scopes over *someone* in (29a) as a result of QR into the matrix clause. Given this, (29b) indicates that topicalization has a freezing effect on QR (i.e. a topicalized element cannot undergo QR), which follows from (28) (for much relevant discussion, see also Epstein 1992).

SC constructions involving overt Wh-movement provide more evidence for the necessity of (28). Recall that in the contexts in which SC must have Wh-movement, all SC Wh-phrases move to SpecCP. One Wh-phrase undergoes Wh-movement, checking the strong +Wh-feature of C, and other Wh-phrases undergo focus movement, which means that C can license Wh-phrases for focus in SC, just as in Bulgarian. Wh-movement is sensitive to Superiority, while focus movement is not. As a result, the highest Wh-phrase must move first to SpecCP, the order of movement of other Wh-phrases being free. Recall, however, that SC also has the possibility of licensing Wh-phrases for focus in a lower position. This possibility is, for example, realized in (2) and (4), which do not have to involve overt Wh-movement at all (see Bošković 1997c and Stjepanović 1998, 1999a for the precise landing site of the Wh-phrases in these constructions). The question now arises why SC Wh-phrases in questions that must involve overt Wh-movement cannot first undergo focus movement to the focus position below C, which would be followed by Wh-movement of one Wh-phrase to SpecCP. In the current system, we want to rule out this derivation for two reasons. First, given that focus movement is not sensitive to Superiority, Wh-phrases could be freely ordered in the focus projection. It appears then that we would have no way of ensuring the existence of Superiority effects in the contexts in question.[16] In other words, in the derivation in question, focus movement would provide an escape hatch from Superiority effects even in the contexts where Wh-movement must take place in SC, which, as shown above, do display Superiority effects. Second, under this derivation it would be difficult to account for the fact that it is more difficult to separate SC Wh-phrases by a parenthetical in the contexts that involve Wh-movement than in those that do not (cf. the contrast between (11) and (25)). I conclude, therefore, that the derivation on which focus movement feeds Wh-movement needs to be blocked. As observed in Bošković (1997c), (28) in

fact straightforwardly blocks the derivation in question. Under this derivation, a Wh-phrase first undergoes focus movement, which I assume is A'-movement that creates an Op-variable chain. The Wh-phrase then undergoes Wh-movement, in violation of (28).[17] By ruling out the possibility of focus movement feeding Wh-movement, (28) ensures the desired result: although in principle SC Wh-phrases can be checked for focus either in SpecCP or in a position lower than C, the latter option is blocked in constructions involving Wh-movement, where C enters the structure overtly, triggering overt Wh-movement. The upshot of the analysis is that whenever interrogative C is present in the structure it must be the focus licenser. Licensing Wh-phrases for focus in a lower position in the presence of interrogative C violates (28).[18] We thus account for the switch to the Bulgarian paradigm in constructions in which SC must have Wh-movement.[19] We also explain why SC and Bulgarian appear to differ with respect to which elements license Wh-phrases for focus. Using a focus licenser lower than C in Bulgarian questions will never give a legitimate result (putting aside the potentially relevant context from note 19), since it would invariably result in a violation of (28). In SC this is a possibility in questions that do not involve overt Wh-movement. In fact, there is evidence that SC and Bulgarian do not differ in this respect. In Bošković (1997b, 2002a) I show that even echo Wh-phrases must undergo focus movement in the languages under consideration, (30a-b) being unacceptable even on the echo reading of *what*.[20]

(30) a.   ?**Ivan kupuje ŠTA?*   (SC)
             Ivan buys   what
             'Ivan buys WHAT?'
       b.   ?**Ivan e kupil   KAKVO?*   (Bulgarian)
             Ivan is bought what
             'Ivan buys WHAT?'

As discussed in Bošković (2002a), in echo questions interrogative C does not have to be present in the structure. Given this, if Bulgarian in principle had the possibility of licensing Wh-phrases for focus in a position lower than CP we would expect the possibility to be taken advantage of in echo questions. Since Wh-movement does not have to take place in such constructions, licensing of a Wh-phrase for focus in a lower position would not lead to a violation of (28). The possibility is indeed realized, as shown in (31), where the fronted echo Wh-phrase is clearly located lower than SpecCP.

(31) *Ti   misliš če KAKVO e kupil   Petko?*
       you think that what   is bought Petko
       'You think that Petko bought WHAT?'

I conclude therefore that, like SC, Bulgarian has the option of licensing Wh-phrases for focus in a position lower than SpecCP. In fact, all the differences between Bulgarian and SC MWF constructions noted by Rudin (1988) now follow from a single lexical difference between Bulgarian and SC interrogative C–the C is an affix in Bulgarian, but not in SC–which has independent motivation (cf. the Inversion data in (10)). Notice also that the analysis is in line

with the recent research attempt to attribute all cross-linguistic variation to lexical properties.

Returning now to (28), in Bošković (1997c) I show that (28) is also responsible for the ungrammaticality of constructions like *What do you wonder John bought (when). Chomsky (1995) argues that features that have semantic import (interpretable features) are 'unaffected' by checking. They can undergo checking both more than once and less then once. According to Chomsky, the +Wh-feature of Wh-phrases is an interpretable feature. Therefore, it can enter multiple checking. Given this, consider the derivation in (32). *What* first moves to the lower SpecCP, checking the strong +Wh-feature of the embedded C. It then moves to the matrix SpecCP, checking the strong +Wh-feature of its head.

(32)   *What$_i$ do you wonder [$_{CP}$ t_i C [$_{IP}$ John bought t_i (when)]]

It is not clear how (32) can be ruled out (note that *when* can be interpreted in the embedded SpecCP, perhaps through unselective binding).[21] In fact, it seems to be well-formed syntactically. Its ungrammaticality can then be taken to indicate that a Wh-phrase cannot pass through an interrogative SpecCP even when that SpecCP is empty, which follows from (28). (*What* in (32) undergoes A'-movement after moving to a position where it can establish an operator-variable relation.) Rudin's way of voiding the Wh-island effect in Bulgarian is abstractly very similar to (32), the only difference between (32) and the Bulgarian cases being that in the Bulgarian cases the SpecCP through which the Wh-phrase passes is already filled, which is irrelevant given that by hypothesis Bulgarian allows more than one Wh-phrase in SpecCP.

I conclude therefore that the possibility of an interrogative Wh-phrase passing through an interrogative SpecCP needs to be ruled out. We then need a new analysis of the (selective) lack of Wh-island effects in Bulgarian which will not rely on passing through a filled SpecCP, i.e. on the possibility of multiply-filled SpecCPs at S-Structure. As noted above, the fact that Swedish, a non-MWF language, behaves like Bulgarian with respect to Wh-islands leads to the same conclusion. The fact that SC exhibits Wh-island effects in the contexts in which it allows multiply-filled SpecCPs in overt syntax confirms that the possibility of MWF itself (more precisely, multiply-filled SpecCPs) cannot provide an escape hatch from the Wh-Island Constraint.

Concerning the structure of MWF constructions, I conclude that the different behavior of Bulgarian and SC with respect to Wh-islands is not related to the possibility of locating more than one Wh-phrase in interrogative SpecCP at S-Structure and therefore does not provide evidence for the structures Rudin proposes for SC and Bulgarian questions. The cause of this difference remains to be determined. It is, however, worth emphasizing that removing the Wh-island argument does not invalidate Rudin's analysis of MWF. Thus, eliminating the Wh-island argument does not affect the impenetrability-of-Wh-phrases argument, which provides evidence for Rudin's claim that all Bulgarian Wh-phrases are located in interrogative SpecCP. As for SC, in certain contexts all SC Wh-phrases remain below CP, which requires modifying Rudin's structure in (3b) by pushing even the first Wh-phrase below CP. (The CP is actually not even present in the contexts in question.) There are, however, contexts in which Wh-movement is forced in SC. In these contexts, SC exhibits the Bulgarian pattern, with all fronted Wh-phrases located in SpecCP. The different behavior of Bulgarian and SC with respect to the obligatoriness

of overt Wh-movement as well as the availability of the pattern in which fronted Wh-phrases are located lower than SpecCP follows from a single difference in the lexical specification of the interrogative C, the element being a PF affix in Bulgarian but not in SC, in line with the current view of cross-linguistic variation as resulting from lexical differences.

Notes

1.   See Rudin (1988), Bošković (1997a, 1998b, 1999, 2002a), Richards (1997, 1998), and Pesetsky (2000), among others. One argument that the fixed order of the Wh-phrases in (1)/(5) is a result of Superiority concerns the fact that (5) improves with D-linked (ia) and echo Wh-phrases (ib). (*KOJ* in (ib) is an echo Wh-phrase.) The same happens with Superiority violations in English (ii). Notice that all the above-mentioned authors argue that the Wh-phrase that is first in the linear order in Bulgarian questions is the one that moves first, in accordance with Superiority. The second Wh-phrase either right-adjoins to the first Wh-phrase, located in SpecCP, as in Rudin (1988), or moves to a lower SpecCP (the first Wh-phrase is located in the higher SpecCP), as in Richards (1997) and Pesetsky (2000). The multiple specifiers analysis was originally proposed in Koizumi (1994). For another approach to Bulgarian MWF, see Kim (1997), Grewendorf (2001), and Sabel (2001, this volume). (Notice also that SC exhibits Superiority effects in certain contexts, which are discussed in section 2.)

(i)   a.   ?*Koja kniga koj   čovek kupuva?*
                which book which man   buys
                'Which book is which man buying?'
        b.   ?*Kakvo KOJ kupuva?*

(ii)   a.   Who bought what?
        b.   *What did who buy?
        c.   Which book did which man buy?
        d.   What did WHO buy?

2.   As argued in Bošković (1997a), the object Wh-phrase checks the strong +Wh-feature of C in (8) rather than the adjunct because it moves to its Case-checking position prior to Wh-movement, thus ending up higher than the adjunct prior to Wh-movement. Notice also that (i) shows that (6)-(9) do not exhibit the same phenomenon as English (ii), noted in Kayne (1984), where addition of a lower Wh-phrase rescues a Superiority violation (see Pesetsky 2000 for a recent discussion of this effect.)

(i)   a.   *Kogo koj kak e tselunal?*
        b.   *Kogo koj kakvo e pital?*

(ii)   a.   *What did who buy?
        b.   (?)What did who buy where?

3.   The gist of the analysis is the following: When it comes to Wh-movement (recall that I take Wh-movement to be 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 moves to check the +Wh-feature C. (Note that I assume 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 always must move first; otherwise, the +Wh-feature will not be checked in the most economical way.) With focus movement, we are dealing with multiple movement to the same position. (All Wh-phrases undergo this movement in the languages in

question.) Regardless of the order of movements, the same number of nodes will always be crossed, hence no order is preferred by Economy. (In Bošković 1998b 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, on the other hand, I state the focus requirement as an inadequacy of the target of movement, giving the target head the specification Attract-all for focus, which is satisfied by attracting all focalized elements. Under both of these analyses, all orders of movement of Wh-phrases are equally economical when it comes to satisfying the focus requirement.)

4. The underlying assumptions here are that +wh C is strong in both Bulgarian and SC and that strength is defined as in Chomsky (1995), namely as something that has to be eliminated from the structure through checking as soon as it enters the structure.

5. More precisely, the presence of phonological information in LF would cause a crash. (The same would happen if, for example, *Mary* were to be inserted into the structure in LF.) If Bulgarian interrogative C (or *Mary* for that matter) is inserted into the structure overtly, the phonological information from its lexical entry is stripped off when the structure is sent to PF, so that it does not enter LF.

6. Izvorski (1993) shows convincingly that the verb in Bulgarian (10b) is not located in C. Rather, it is located lower in the structure. Thus, Izvorski observes that if Bulgarian were to have I-to-C movement in questions, (ib) should be acceptable, just like its English counterpart *What had Maria forgotten about*. (Notice that the auxiliary, which Izvorski assumes is located in I and therefore should be affected by I-to-C movement, is not a proclitic on the verb, like some other auxiliary forms in Bulgarian.) Also, if the verb in Bulgarian questions were located in C (which means that a subject following it could be located in SpecIP), the adverb in (iib) should have both the low, manner reading, and the high, subject-oriented adverb reading, just like the adverb in (iia) and English constructions of this type. (Izvorski gives *What did John carefully read?*, where the adverb can have either the manner or the subject-oriented adverb reading.)

(i) a. *Maria beše zabravila za   sreštata.*
         Maria was forgotten about meeting-DEF
         'Maria had forgotten about the meeting.'
     b. **Za   kakvo beše Maria zabravila?*
          about what was   Maria forgotten
         'About what had Maria forgotten?'
     c. *Za kakvo beše zabravila Maria?*
     d. **Za kakvo Maria beše zabravila?*

(ii) a. *Petko pravilno otgovori na vūprosa   im.*
         Petko correctly answered to question-DEF they-DAT
         'Petko did the right thing when he answered their question.'
         'Petko gave a correct answer to their question.'
     b. *Na kakvo otgovori Petko pravilno?*
         to what   answered Petko correctly
         '*What was Petko right to answer?'
         'What did Petko give a correct answer to?'

Given that the verb is lower than C, the simple structural explanation of the ungrammaticality of (10a) that would rely on V-to-C movement, namely, there is not enough space to place the subject between the Wh-phrase in SpecCP and the verb, is not available. In Bošković (2001a,b, 2002b) I apply Chomsky's (1957) affix hopping analysis to (10a-b). The C affix undergoes affix hopping to the verb, which is only possible when the subject is not phonologically realized in SpecIP, PF adjacency being a prerequisite for affix hopping. (I actually argue that the subject does move to SpecIP. However, a lower copy of the subject is pronounced to make affix hopping possible (note that Bulgarian does not have anything like *do*-support), in line with Franks's (1998) proposal,

discussed below, that a lower copy of a non-trivial chain can be pronounced iff this is necessary to satisfy a PF requirement (see also Bobaljik 1995, Hiramatsu 2000, Pesetsky 1997, 1998, and Bošković 2001a, 2002a).

7. The LF C-insertion analysis is applied to French in Bošković (1998a, 2000b). LF C-insertion results in Wh-in situ, i.e. lack of overt Wh-movement, in French. As in SC, overt C-insertion triggers overt Wh-movement. It turns out that LF C-insertion is blocked in the same contexts in French as in SC, which results in an interesting correlation between the possibility of Wh-in situ in French and the lack of Superiority effects in SC (they both depend on the availability of the LF C-insertion derivation). It is worth noting here that in Bošković (2000b) I argue that the different behavior of English and French with respect to the obligatoriness of Wh-movement should be accounted for in the same way as the different behavior of Bulgarian and SC with respect to the phenomenon. As in Bulgarian, interrogative C is a PF affix in English, hence it must be inserted into the structure overtly. Overt C-insertion triggers overt Wh-movement. As in SC, interrogative C is not a PF affix in French, hence it does not have to be inserted overtly. As discussed above, when the C is not inserted overtly Wh-movement does not take place overtly. The analysis is supported by the fact that, like Bulgarian and SC, English and French differ with respect to Inversion. As in Bulgarian, Inversion must take place in English questions like (i) (i.e. C must be V-adjacent, see Bošković 2000b for explanation why Inversion does not take place in English embedded questions). French patterns with SC in the relevant respect, as expected (see (ii)). The LF C-insertion analysis thus provides us with a uniform account of the different behavior of Bulgarian and English on one hand, and SC and French on the other hand, with respect to Inversion and Wh-movement/Superiority.

(i) a. Who have you seen?
     b. *Who you have seen?

(ii) *Qui tu as   vu?*
     who you have seen
     'Who have you seen?'

8. The Bulgarian constructions improve when the intervening material is contrastively focused, the relevance of which is clear under the focus movement analysis of MWF argued for in Bošković (2002a). (For much relevant discussion, see also Lambova 2002.)
    Rudin also observes that SC and Bulgarian MWF constructions differ with respect to the possibility of splitting fronted Wh-phrases by adverbs and clitics. However, the clitic data involve an interfering factor. While SC clitics are second position (2P) clitics, whose only requirement is that they occur in the 2P of their intonational (I)-phrase, Bulgarian clitics are verbal clitics, which must be adjacent to the verb (see Bošković 2001a and references therein.) Notice also that, as discussed in Bošković (2001a) and note 15, in some cases a 2P clitic may be pronounced between 2 Wh-phrases in SC as a result of a PF re-ordering mechanism (more precisely, due to pronunciation of a lower copy of one of the Wh-phrases), although in the syntax it follows them. The interfering factors invalidate the clitic intervention test.

9. Rudin claims that Bulgarian and SC also differ with respect to the possibility of multiple extraction of Wh-phrases out of declarative clauses. However, I and other speakers I have consulted find SC (i) acceptable.

(i) *Ko šta želite   da vam kupi?*
     who what want-2P that you buys
     'Who do you want to buy you what?'

10. It is worth noting here that for some (though not all) speakers, questions involving extraction of a D-linked Wh-phrase out of a Wh-island are worse if they involve extraction across another D-linked Wh-phrase, as in (i). (Thanks are due to Cedric Boeckx for suggesting checking extraction out of D-linked Wh-islands.)

(i) ??(?)*Koja ot tezi knigi i se   čudiš   koj čovek znae koj   učitel   prodava* t_i*?*
       which of these books REFL wonder-2S which man   knows which teacher sells
       'Which of these books do you wonder which man knows which teacher sells?'

11.   Note that in the current theoretical system, traditional Subjacency and ECP violations (the former arising with extraction of arguments and the latter with extraction of adjuncts out of islands) are treated in essentially the same way (see Chomsky and Lasnik 1993, Takahashi 1994, Bošković and Lasnik 1999, among others).

12.   As in Bulgarian, where extraction out of a Wh-island is possible in Swedish, it can take place out of more than one Wh-island. Notice also that adjuncts can be extracted long-distance out of declarative complements in Swedish. Significantly, D-linked questions also exhibit Wh-island effects if the Wh-island itself contains a D-linked Wh-phrase in SpecCP, another parallelism with Bulgarian (see note 11).

(i) ??*Vilken film var det du gärna ville   veta   vilken skådespelare som hade regisserat?*
       which film was it   you gladly wanted know-INF which actor   who that directed
       'Which film did you want to know which actor had directed?'

13.   Recall that the +wh C in SC has a strong +Wh-feature. As a result, it triggers Wh-movement as soon as it enters the structure. If it enters the structure overtly, it triggers overt Wh-movement.

14.   I ignore the irrelevant echo-question reading. Note that I do not give here indirect questions as examples of embedded questions because such questions involve an interfering factor. Indirect questions formally do not differ at all from matrix questions in SC. As a result, there is always a danger that they could be analyzed as matrix questions, with the superficial matrix clause treated as an adsentential. The problem does not arise with correlative constructions like (18) and existential constructions like (20), which also contain embedded questions (see Izvorski 1996, 1998). However, I show in Bošković (1997b) that when the interfering factor noted above is controlled for, indirect questions also exhibit Superiority effects. Notice also that the S-Structure of (21a) can actually be *Ko koga li voli* in light of the discussion of (25) below. Given that *li* is a 2P clitic and that the 2P clitic effect is a PF effect, as shown in Bošković (2001a), we are forced to pronounce a lower copy of the Wh-phrase immediately preceding *li* (namely *koga*) to satisfy the 2P requirement on *li* under Franks's (1998) approach to the pronunciation of non-trivial chains, where we are allowed to pronounce a lower copy of a non-trivial chain iff this is necessary to satisfy a PF requirement. (See Bošković 2001a for discussion of the 2P effect in multiple questions under Franks's approach to the pronunciation of non-trivial chains. Notice that the algorithm for determining which copy of a non-trivial chain to pronounce from Bošković 2001a, 2002a (see also Bošković and Franks 2002) ensures that *koga* rather than *ko* is pronounced in a lower position in (21a), whose S-Structure is given in (i). Under the algorithm, it will always be the Wh-phrase that immediately precedes *li* that is pronounced in a lower position, so that (21b) is ruled out due to a violation of Superiority — the accusative Wh-phrase moves to SpecCP before the nominative Wh-phrase.)

(i) *Ko ~~koga~~ li ~~ko~~ koga voli...*
       who whom Q who whom loves

The above remarks concerning (21a) also extend to (22a), where both Wh-phrases may precede at S-Structure the auxiliary *je,* a 2P clitic like *li*. (Note that the topicalized element is parsed as a separate I-phrase, which means that it is irrelevant to the 2P requirement on *je*. As discussed in note 16, SC 2P clitics must be second within their I-phrase.)

(ii) *... ko ~~šta~~ je ~~ko~~ šta...*

15.   As in Bulgarian, contrastively focusing the parenthetical generally leads to improvement.

Note, however, that the correlative example (25d) may be irrelevant, since the Wh-clause of the correlative does not tolerate the parenthetical in question regardless of its position. However, other material cannot intervene between the Wh-phrases of the Wh-clause either.

Note also that (25e) does not violate the 2P requirement, so that lower pronunciation of the second Wh-phrase is not allowed, in contrast to (21a). As discussed in Bošković (2000a, 2001a), the proper formulation of the 2P effect is that SC clitics must be second within their I-phrase, not clause. As a result, since parentheticals are followed by an I-phrase boundary, a clitic can be hosted by an element that immediately follows a parenthetical even when this would prevent it from being second within its clause. (The element immediately following a parenthetical is always the initial element of an I-phrase.) This is illustrated by (ia), which contrasts with (ib), where the clitic *će* is located in the third position of its I-phrase. The 2P requirement is satisfied in (25e) in the same way as in (ia).

(i) a. *Znači da, kao što rekoh, oni će sutra   doći.*
        means that as   said-1S they will tomorrow arrive
        'It means that, as I said, they will arrive tomorrow.'
    b. **Znači da oni će sutra doći.*

16. See, however, Lambova's (2002) discussion of Bulgarian.

17. Grohmann's (2000) approach to anti-locality, which bans movement that is too local (see Grohmann 2000 for precise definitions), may also rule out the derivation in question, at least in some cases.

18. There is actually one exception, regarding SC constructions like (i).

(i) *Ko   tvrdiš   da je šta   kupio?*
    who claim-2P that is what bought
    'Who do you claim bought what?'

Bošković (1997c) and Stjepanović (1998, 1999a) show that in constructions in which SC does not have obligatory overt Wh-movement, there are still two focus licensing positions, one above and one below sentential adverbs. (Both are still lower than C. Note that whatever element licenses focus we need to assume either that the element does not have to be present in the structure or that it is only optionally taken from the lexicon with a focus feature; this is necessary since it is not the case that every sentence must contain a Wh-phrase or a contrastively focused non-Wh-phrase.) If only the lower but not the higher focus position is activated in the embedded clause of (i), the sentence can be derived without violating (28). *Šta* can be focus-licensed in the lower focus position. Since this position is located below the embedded clause SpecIP, the embedded clause subject still has to be focus-licensed in the matrix clause, more precisely, matrix SpecCP. That *šta* in (i) is indeed located in the lower focus position is confirmed by (ii-iii), which show that *šta* is located below sentential adverbs. (Recall that the lower focus position is located below sentential adverbs, and the higher focus position above them.)

(ii) a. *?Ko tvrdiš   da je vjerovatno šta   kupio?*
         who claim-2P that is probably   what bought
         'Who do you claim probably bought what?'
     b. **Ko tvrdiš da je šta vjerovatno kupio?*

(iii) a. *?Ko tvrdiš   da je mudro šta   kupio?*
          who claim-2P that is wisely what bought
          'Who do you claim that it was wise of to buy what?'
          'Who do you claim bought what in a wise manner?'
      b. *Ko tvrdiš da je šta mudro kupio?*
          '*Who do you claim that it was wise of to buy what?'
          'Who do you claim bought what in a wise manner?'

It is worth noting here that there is some variation with respect to the availability of the low focus position below sentential adverbs in Slavic. Thus, while this position is available in SC, as demonstrated in Bošković (1997c) and Stjepanović (1998, 1999a), it is not available in Russian, as shown in Stepanov (1998).

19.   Note that the appeal to acyclic adjunction made in Bošković (1997c) to account for the SC constructions in question is no longer necessary.

20.   I am considering only the reading on which the echo question asks for repetition of what the questioner has not heard. Echo questions in situ are acceptable on the reading on which they express surprise. As discussed in Bošković (2002a), this can be straightforwardly accounted for under the focus movement analysis of Wh-fronting in Slavic since the value of the echo Wh-phrase is fully known to the speaker, as well as the hearer, on the surprise reading, but not on the request for repetition reading. Hence, the Wh-phrase has to undergo focus movement only on the latter reading. (Note that focus represents new information.)

21.   The problem arises in Chomsky's (1995) system. Chomsky (2000:123) does offer a technical way out of the problem based on the proposal that only an element with an uninterpretable feature can undergo movement. Chomsky makes the proposal in order to deal with certain facts regarding A-movement (p. 128-129), but he (p. 128) does suggest its extension to A'-movement (without offering empirical motivation for this move though). Returning to (32), the uninterpretable feature that makes *what* visible for movement is presumably deleted in the embedded SpecCP. However, Bošković (2002c) and especially Saito (2000) show that, apart from its stipulatory nature, the visibility approach faces a number of very serious problems. They argue that it can be, and should be, eliminated from the grammar, which is also what I assume here.

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