Wh-Phrases and Wh-Movement in Slavic*

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Slavic languages are characterized by multiple wh-fronting (MWF) in overt syntax. Rudin (1988a, 1988b, in press) (for early studies of MWF, see Wachowicz 1974 and Toman 1981) argues that there are two types of MWF languages: in one type, represented by Bulgarian (according to Rudin, Romanian also belongs to this type), all fronted wh-phrases are located in SpecCP. There is another type of MWF language, represented by Serbo-Croatian (SC) (other languages belonging to this group are Czech, Polish, Russian, and Ukrainian), where, according to Rudin, only the first fronted wh-phrase is located in SpecCP. Other fronted wh-phrases are adjoined to IP. Rudin thus assigns the structures in (2) to the Bulgarian and SC constructions in (1).

(1) a. Koj   kogo   vižda?   [B]
       who   whom   sees

       'Who sees whom?'

    b. Ko   koga   vidi?   [SC]
       who   whom   sees

(2) a. [CP [SpecCP[SpecCP Koj] kogo] [C′ vižda]]?

    b. [CP Ko [C′ [IP koga [IP vidi]]]]?

     Rudin provides several types of evidence for her analysis. She argues that in Bulgarian, but not in SC, fronted wh-phrases form a constituent. She also gives an argument that, in contrast to SC, Bulgarian allows more than one wh-phrase to be located in an interrogative SpecCP at SS. These properties of MWF in Bulgarian and SC follow from Rudin's analysis. I discuss Rudin's evidence in the next section.

1. Two types of MWF languages: Bulgarian vs. Serbo-Croatian

1.1. Constituency of fronted wh-phrases

Rudin (1988a) claims that SC allows clitics, adverbs, and parentheticals to intervene between fronted wh-phrases, which is not possible in Bulgarian. (The judgments in (3-4) are Rudin's. The intervening material is given in italics.)

(3) a. Ko *mu je* šta   dao?   [SC]
       who him is   what given

       'Who gave him what?'

(3) b. Ko   *je   prvi*   koga   udario?
       who   is   first   whom   hit

   'Who hit whom first?'

   c. Ko,   *po   tebi*,   šta   pije?
      who,   according   to you   what   drinks

   'Who, according to you, drinks what?'

(4) a. *Koj *ti   e*   kakvo   kazal?   [B]
      who   you   is   what   told

   'Who told you what?'

   b. *Zavisi   ot   tova,   koj   *prâv*   kogo   e   udaril.
      depends   on   it   who   first   whom   is   hit

   'It depends on who hit whom first.'

   c. ?*Koj, *spored   tebe*,   kakvo   e   kazal?
      who   according   to you   what   is   said

   'Who, according to you, said what?'

Rudin argues that the impenetrability of fronted wh-phrases in Bulgarian indicates that they all 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.

The conclusion, however, may be too hasty with respect to at least some of the data in (3-4). Regarding the contrast between (3a) and (4a), notice that, as pointed out by Rudin herself, SC and Bulgarian clitics have very different properties. SC clitics are typical second position clitics whose only requirement is that they occur in the second position of their sentence, or more precisely, intonational phrase (see Bošković 1995, 1997d). They have no requirements on the category of their host. Bulgarian clitics, on the other hand, are verbal clitics. This difference between Bulgarian and SC suffices to account for the contrast between (3a) and (4a). The ungrammaticality of SC (5), however, could still be interpreted as indicating that fronted wh-phrases in SC do not form a constituent, given the traditional observation that SC clitics can follow either the first word or the first constituent of their cliticization domain. Of course, whether the argument can go through depends on what this descriptive generalization, which has been questioned recently (see Franks and Progovac 1994 and Bošković 1997d, among others), follows from.[1]

(5) *Ko   šta   *mu   je*   dao?
     who   what   him   is   given

Notice also that in SC, there is a preference for fronted wh-phrases not to be split by intervening non-clitic material. As for Bulgarian, some Bulgarian speakers allow adverbs and parentheticals to intervene between fronted wh-phrases. The intervening material is particularly felicitous when contrastively focused. (The same holds for SC.) The relevance of this will become clear during the discussion below. The distinction between SC and Bulgarian with respect to the penetrability of fronted wh-phrases is thus not completely clear-cut.

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[1] Since it is not completely clear how second position clitic placement is accomplished, in the discussion below I will generally ignore intervening second position clitics.

1.2. Wh-islands

Rudin (1988a) claims that Bulgarian allows, and SC disallows, extraction out of wh-islands based on constructions such as (6a-b). (I have changed Rudin's SC example.)

(6) a. Vidjah   edna kniga, kojato$_i$ se #ch#udja koj   znae   koj   prodava t$_i$. [B]
         saw-1s   a   book   which   wonder-1s   who   knows   who   sells

         'I saw a book which I wonder who knows who sells.'

     b. *Vidio sam knjigu koju$_i$ se pitam   ko   zna   ko   prodaje t$_i$. [SC]
         seen   am   book   which   wonder-1s who   knows   who   sells

         'I saw a book which I wonder who knows who sells.'

Rudin interprets the contrast in (6) 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 (6a) 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 to be located in SpecCP overtly, this escape hatch from the Wh-Island Constraint is not available in SC.

The relevant facts are, however, more complex than (6a-b) indicate. 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 with questions. Rudin's example in (7a) illustrates this. However, Rudin observes that (7b), containing a D-linked wh-phrase, contrasts with (7a). Based on this, Rudin concludes that questioning out of wh-islands in Bulgarian is allowed with D-linked, but not with non-D-linked wh-phrases.

(7) a. *Kakvo$_i$ se čudiš   koj   znae   koj   prodava t$_i$?
         what   wonder-2s who   knows   who   sells

         'What do you wonder who knows who sells?'

     b. ?Koja   ot tezi   knigi$_i$ se čudiš   koj   znae   koj   prodava   t$_i$?
         which   of these books   wonder-2s who   knows   who   sells

         'Which of these books you wonder who knows who sells?'

The literature on wh-islands in Bulgarian generally focuses on argument extraction and completely ignores adjunct extraction.[2] The facts concerning adjunct extraction flatly contradict the claim that Bulgarian is not sensitive to the Wh-Island Constraint. As shown in (8), 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 here.

(8) a. *pričinata, poradi kojato$_i$ [Ivan znae   dali   Boris e   zaminal   t$_i$]
         the-reason 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-3s   whether Boris   is   left

         'Why/for which reason does he know whether Boris left?'

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[2] 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 in preparation, among others).

(8) 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 clearly 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-linked questions, but not with non-D-linked questions, as observed in Comorovski (1996). With adjuncts, extraction out of wh-islands is never possible, which is generally ignored in the literature.[3]

(9) a. *Vad frågade Jan vem som skrev?
       'What did John ask who wrote?'   (Maling 1978)

    b. Det är melodin, som Jan frågade vem som skrev.
       'This is the song that John asked who wrote.'   (Maling 1978)

    c. Vilken film var det gu gärna ville veta vem som hade regisserat?
       'Which film did you want to know who had directed?'   (Engdahl 1986)

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

    e. *orsaken varför han undrar [vem som lagade bilen t]
       '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 any analysis that would relate the possibility of extraction out of wh-islands in certain contexts in Bulgarian to the possibility of MWF is on the wrong track.

To summarize the discussion so far, the data concerning penetrability of fronted wh-phrases and wh-islands do not provide completely clear support for Rudin's analysis of MWF languages.

1.3. Wh-phrases in non-interrogative positions

Rudin (1988a) claims that, in contrast to Bulgarian, SC allows wh-phrases to occur in clearly non-interrogative positions. This is readily accounted for under Rudin's analysis, where SC and Bulgarian differ in that only the latter requires all wh-phrases to be located in interrogative SpecCP at SS.[4]

(10) a. Ko   želite   da   vam   šta   kupi?   [SC]
        who   want-2p that you   what buys
        'Who do you want to buy you what?'

     b. *Koj misliš   če   kude   e   otišul?   [B]
        who think-2s that where is   gone
        'Who do you think went where?'

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[3] Notice that, as in Bulgarian, in Swedish, where extraction out of wh-islands is possible, 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.

[4] The judgments for (10a-b) are Rudin's. One of my Bulgarian informants accepts some constructions with wh-phrases in non-interrogative positions.

2. Superiority effects

There is one difference between Bulgarian and SC MWF constructions that does not seem to at all follow from Rudin's analysis of these languages. Rudin observes that fronted wh-phrases in Bulgarian are subject to linear ordering constraints, which is not the case with fronted wh-phrases in SC. Her observation is based on constructions such as (11) and (12).

(11) a. Koj   kogo   e   vidjal?   [B]
          who   whom   is   seen

          'Who saw whom?'

      b. *Kogo   koj   e   vidjal?

      c. Koj   kak   udari   Ivan?
          who   how   hit   Ivan

          'Who hit Ivan how?'

      d. *Kak   koj   udari   Ivan?

(12) a. Ko   je   koga   vidio?   [SC]
          who   is   whom   seen

      b. Koga   je   ko   vidio?

      c. Ko   kako   udara   Ivana?
          who   how   hits   Ivan

      d. Kako   ko   udara   Ivana?

I will first discuss Bulgarian and then return to SC.

2.1. Superiority effects in Bulgarian

The order of fronted wh-phrases in Bulgarian appears to follow from the Superiority Condition. Chomsky's (1973) original formulation of the condition, which accounts for the contrast between (13b) and (13c) (*who* is superior to *what*), is given in (13a).

(13) a. No rule can involve X, Y in the structure … X … [… Z … WYV …] where the rule
          applies ambiguously to Z and Y, and Z is superior to Y. The category A is superior
          to the category B if every major category dominating A dominates B as well but not
          conversely.

      b. Who$_i$ did John tell t$_i$ that he should buy what?

      c. *What$_i$ did John tell who that he should buy t$_i$?

We shall see in section 2.3. that MWF constructions provide support for the Economy account of Superiority (Chomsky MIT Fall Lectures 1989, see also Bošković 1997a, in press b, Cheng 1997, and Kitahara 1993), under which the effects of the Superiority Condition follow from the requirement that the +wh-feature of C be checked in the most economical way, i.e., through the shortest movement possible.[5] The underlying assumption here is that movement to SpecCP obligatorily triggers Spec-Head agreement with C, which in turn results in the checking of the +wh feature of C. Rudin (1988a) argues that adjunction to SpecCP in Bulgarian proceeds to the right, i.e., the wh-phrase that is first in the linear order is the one

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[5] Note that I will continue to use the term Superiority Condition for ease of exposition.

that moves first to SpecCP. Given rightward adjunction to SpecCP, (11a-d) indicate that the nominative *koj* must move to SpecCP before accusative and VP-adjunct wh-phrases, checking the +wh feature of C in the most economical way (i.e. through the shortest movement possible). (11b) and (11d), where the accusative and the adjunct wh-phrase move first checking the strong +wh feature of C, are then ruled out because the +wh feature of C is not checked through the shortest movement possible.

A slightly different account is available under Koizumi's (1994) proposal that instead of multiple adjunction to SpecCP, Bulgarian MWF constructions involve multiple specifiers of C. Under this analysis Superiority still forces the highest wh-phrase in (11) (*koj*) to move to SpecCP first. Richards (1997) suggests that when the second wh-phrase undergoes wh-movement, Make the Shortest Move Principle forces it to move to the lower specifier. This way, the wh-phrase crosses fewer nodes than it would if it were to move to the higher specifier.

Regardless of whether the adjunction to SpecCP or the multiple specifiers analysis is adopted, a potential problem for the Superiority account is raised by constructions such as (14a-b), noted in Bošković (1997a).

(14) a. Kogo   kak   e   tselunal   Ivan?
          whom   how   is   kissed   Ivan

          'How did Ivan kiss whom?'

      b. ?*Kak kogo e tselunal Ivan?

(14a-b) indicate that the accusative *kogo* must move to SpecCP before the VP-adjunct *kak*, which is unexpected given the standard assumption that direct objects are generated below VP-adjuncts. However, in Bošković (1997a) I show that the data in (14) can be readily accommodated if accusative wh-phrases that undergo overt movement to SpecCP must move to SpecAgr$_O$P, their Case-licensing position, before moving to SpecCP even in languages in which movement to SpecAgr$_O$P otherwise does not have to be overt. Movement to SpecAgr$_O$P is forced to take place overtly in (14) for Case reasons. If *kogo* in (14) moves directly to SpecCP its accusative Case feature will remain unchecked, causing the derivation to crash. (*Kogo* cannot be Case-checked through LF movement of its trace given Chomsky's (1995) proposal that traces are invisible to the operation Move.) *Kogo* thus must move overtly to SpecAgr$_O$P in (14) to ensure that the derivation converges.[6] Given the Principle of Strict Cyclicity, *kogo* must move to SpecAgr$_O$P before any movement to SpecCP takes place in (14). Since, after movement to SpecAgr$_O$P, *kogo* is higher than *kak,* it must move to SpecCP before *kak* to ensure that the +wh feature of C is checked in the most economical way.

(15)   [$_{CP}$ Kogo$_i$ kak$_j$ e [$_{Agr_OP}$ t$_i$ tselunal$_k$ [$_{VP}$ [$_{VP}$ Ivan [$_{V'}$ t$_k$ t$_i$]] t$_j$]]]?

Under this analysis (14a) is accounted for in the same way as (16a, b).

(16) a. Who$_i$ t$_i$ seems to who [t$_i$ to be crazy]?

      b. Who$_i$ strikes who [t$_i$ as being crazy]?

As in (14a), in (16) the wh-phrase that checks the +wh feature of C is generated below another wh-phrase, moves to an A-position higher than the other wh-phrase, and then

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[6] Subjects undergoing overt movement to SpecCP are forced to move overtly to their Case-checking position (SpecAgr$_S$P) for the same reason, although they can otherwise remain in SpecVP in overt syntax in Bulgarian (see (15), where the subject remains below the participle, which undergoes short verb movement).

undergoes wh-movement. Apparently, A-positions can serve as an escape hatch from Superiority. This can be readily accounted for under the Economy account of Superiority. Recall that under this account Superiority effects follow from the requirement that the strong +wh feature of C be checked in the most economical way. Given this, it is only natural that only movement motivated exclusively by +wh feature checking is considered in computing the length of movement relevant to Superiority. Since A-movement of *kogo* to SpecAgr$_O$P in (15) and A-movement of *who* to SpecAgr$_S$P in (16) are motivated by Case-checking, they have no relevance to Superiority.[7]

In addition to Superiority, low level phonological considerations may also affect the order of fronted wh-phrases in Bulgarian. Thus, Billings and Rudin (1996) show that (17a) is ruled out independently of the Superiority Condition by a low level constraint against consecutive homophonous wh-words. (See fn 11 for more examples of relevance of phonological considerations in MWF.)

(17) a. *Na kogo kogo e pokazal Ivan?
  to whom whom is pointed out Ivan

  'Who did Ivan point out to whom?'

 b. Kogo na kogo e pokazal Ivan?

We have seen that strict ordering of fronted wh-phrases in Bulgarian provides evidence that wh-movement in Bulgarian is sensitive to Superiority. Free ordering of fronted wh-phrases in SC could then be interpreted as indicating that Superiority does not apply in SC. Any account of (12a-d) that would simply exempt SC from Superiority is, however, conceptually problematic. The Superiority Condition, which follows from the Principles of Economy, is not a plausible candidate for cross-linguistic variation under the current theoretical assumption that languages differ only in their morphological properties. In Bošković (1997b) I show that in certain configurations SC does exhibit Superiority effects and argue that constructions that appear to violate the Superiority Condition do not involve wh-movement at all. I discuss the relevant evidence in the next section.

2.2. Superiority effects in Serbo-Croatian

The apparent violations of the Superiority Condition in (12) involve short-distance matrix questions. In Bošković (1997b) I show that in three other contexts, in particular, long-distance questions, embedded questions, and root questions involving lexical complementizers, SC does exhibit Superiority effects.[8]

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[7] Whereas all my informants agree that *kak* must follow *kogo*, some speakers allow *kâde* 'where' to either precede or follow *kogo*. For others, *kâde* patterns with *kak* in that it must follow *kogo*. This can be accounted for if for the first group of speakers, *kâde* can be generated either above or below Agr$_O$P, in contrast to *kak*, which must be generated below Agr$_O$P. (For the second group of speakers *kâde* patterns with *kak* in the relevant respect.)

 (i) Kogo kâde e vidjal čovekut?
   whom where is seen the man
   'Whom did the man see where?'

[8] In (18-22) I ignore the irrelevant echo-question reading of wh-phrases. The indicated judgments hold only for the true non-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 (19) and existential constructions like (20), which also contain embedded questions, as shown by Izvorski (1996, in press). Note, however, that I show in Bošković (1997b) that when the

(18) a. Ko   je   šta   prodao?
       who   is   what   sold

'Who sold what?'

b. šta je ko prodao?

(19) 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.

(20) a. (?)Ima   ko   šta   da   ti   proda.
       has   who   what   that you   sells

'There is someone who can sell you something.'

b. *Ima šta ko da ti proda.

(21) a. Ko   si   koga   tvrdio   da   je   istukao?
       who   are   whom   claimed that is   beaten

'Who did you claim beat whom?'

b. *Koga si ko tvrdio da je istukao?

(22) a. Ko   li   šta   kupuje?
       who   C   what   buys

'Who on earth buys what?'

b. *šta li ko kupuje?

Interestingly, as shown in Bošković (1997b, in press a), French exhibits the same division between different types of questions with respect to a somewhat different phenomenon. Exactly in those contexts in (18-22) in which SC exhibits Superiority effects wh-movement is obligatory in French. Where SC does not exhibit Superiority effects, wh-movement does not have to take place in French.[9]

(23) a. Tu   as   embrassé   qui?
       you   have   kissed   who

'Who did you kiss?'

b. Qui as-tu embrassé?

(24) a. *Pierre   a   demandé   tu   as   embrassé   qui.
       Peter   has   asked   you   have   kissed   who

b. Pierre a demandé qui tu as embrassé.

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potentially interfering factor noted above is controlled for, true indirect questions in SC also exhibit Superiority effects.

[9] Again, I ignore the irrelevant echo-question reading. Note also that overt C questions like (26b) are not accepted in all dialects of French.

(25) a. *Jean et   Marie croient   que Pierre a   embrassé   qui?
          John and   Mary believe   that Peter has kissed   who

         'Who do John and Mary believe that Peter kissed?'

      b. cf. Qui Jean et Marie croient-ils que Pierre a embrassé?

(26) a. *Que tu   as   vu   qui?
          C   you   have   seen   who

         'Who did you see?'

      b. cf. Qui que tu as vu?

Given this parallelism, the curious behavior of SC wh-movement with respect to Superiority can be readily explained if SC is a French-type language with respect to when it must have wh-movement. Embedded, overt C, and long-distance questions then exhibit Superiority effects because, as in French, in SC wh-movement must take place in such questions. Short-distance null C matrix questions do not exhibit Superiority effects for a trivial reason: as in French, in SC such questions do not have to involve wh-movement.[10] SC wh- movement is thus well-behaved with respect to Superiority: Whenever we have wh-movement in SC Superiority is operative. Under this analysis, SC is considered to behave like French with respect to when it must have overt wh-movement, the only difference between SC and French being that even the wh-phrases that do not undergo overt wh-movement to SpecCP still must move overtly in SC. This is illustrated in (27). (Recall that, as argued by Rudin, SC never allows more than one wh-phrase in SpecCP. The second wh-phrase is never located in SpecCP in SC.)

(27) a. Ko   šta   kupuje?
          who   what   buys

         'Who buys what?'

      b. ?*Ko kupuje šta?

(27) shows that SC wh-phrases must move overtly independently of wh-movement.[11] Given that *šta* in (27) must undergo movement although it does not land in SpecCP, there

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[10] For the analysis to go through it suffices that SC short-distance matrix questions merely do not have to involve syntactic wh-movement, just like the French ones.

[11] As noted in Bošković (1997b), there are actually two exceptions to the obligatoriness of fronting of SC wh-phrases. One exception concerns D-linked wh-phrases, which can remain in situ not only in SC, but also in Bulgarian, which, according to Rudin, otherwise forces all wh-phrases to move to SpecCP overtly. The reason for this exceptional behavior of D-linked wh-phrases is unclear. (D-linked wh-phrases are exceptional in other respects as well. Thus, cross-linguistically, they appear to be immune from Superiority effects (see Pesetsky 1987). I will have nothing new to say here about the exceptionality of D-linked wh-phrases and will ignore them in the rest of the paper.)

(i) a. Ko   je   kupio   koju   knjigu?   [SC]
         who   is   bought which   book
     b. Koj   e   kupil   koja   kniga?   [B]
         who   is   bought which   book

Bošković (1997b) notes that a non-D-linked wh-phrase does not have to be fronted in SC if it is phonologically identical to another fronted wh-phrase, as illustrated in (ii). (The observation is due to Wayles Browne (personal communication).)

(ii) šta   uslovljava   šta?
      what   conditions   what

does not seem to be any a priori reason to make a difference between the movement of *šta* and the movement of *ko* by requiring *ko* to move to SpecCP. The simplest assumption is that both wh-phrases are undergoing the same kind of movement, which then cannot be wh-movement. Notice also that (27b) is ungrammatical even on the echo question reading of *šta*. The same holds for (28). This strongly indicates that the obligatoriness of fronting of SC wh-phrases is independent of the +wh-feature.

(28) ?*Jovan   kupuje   šta?
        John   buys   what

Before proceeding with investigating properties of this non-wh-fronting of wh-phrases in SC, I will briefly summarize my (1997b, in press a) explanation for the existence of languages such as French and SC, which have obligatory wh-movement only in certain contexts, namely embedded, overt C, and long-distance questions, but not in null C short-distance matrix questions. I argue that the CP projection does not even have to be present overtly in constructions such as (18) and (23). Since the complementizer is phonologically null and located at the top of the tree in these constructions nothing in the current framework prevents it from entering the structure in LF, given Chomsky's (1995) derivational definition of strong features.[12] The reason why (23) and (18) do not have to involve overt wh-movement is then trivial: Its trigger does not have to be present overtly. I argue that the LF C-insertion is the only way for French and SC to avoid overt wh-movement to SpecCP. In constructions in which wh-movement is forced the LF C-insertion derivation is blocked. With embedded questions the derivation is blocked because it would involve merger of the null complementizer in an embedded position, which is disallowed, Merge being allowed to take place only at the top of the tree. With overt complementizers, the derivation is blocked because phonologically overt elements cannot enter the structure in LF. If they do, the derivation crashes due to the presence of phonological information in LF. I also show that with long-distance questions, the LF C-insertion derivation fails. Since the explanation is a bit more involved, I will not repeat it here.

In short, in French and SC matrix short-distance null C questions the interrogative CP projection can be inserted in LF. As a result, wh-movement (i.e. movement to SpecCP) does not have to take place overtly in such questions. This is what 'licenses' wh-in-situ in French and makes SC wh-movement well-behaved with respect to Superiority. SC differs from French in that it needs to front all wh-phrases independently of the +wh-feature.

An interesting property of this obligatory non-wh-fronting of SC wh-phrases (I use the term to indicate any movement of a wh-phrase that is not motivated by checking the strong +wh-feature of C) is that, in contrast to wh-movement (by which I mean movement

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We appear to be dealing here with a low level phonological/PF effect, since the information concerning the pronunciation of wh-phrases should not be accessible to the syntax.

[12] I assume that the interrogative C in SC and French has a strong +wh-feature. If this were not the case (i.e. if the interrogative C in SC and French could be either strong or weak), it would not be possible to ever enforce the overt wh-movement option in these languages. Chomsky (1995, p. 233) defines strong features derivationally as objects that cannot be tolerated by a derivation and therefore must be eliminated through checking as soon as they are introduced into the structure. In Bošković (in press b) (see also section 2.3.) I argue that strength can reside not only in targets but also in elements undergoing movement, in which case strength cannot be checked immediately upon insertion. To account for this I modified Chomsky's definition of strength by assuming that strength has to be eliminated through checking as soon as possible after insertion of the strength bearing element into the structure. (This approach to strength has a flavor of Procrastinate and the Minimize the Operator Restriction Principle of Chomsky 1993.) The qualification as soon as possible can be dropped under the analysis presented in section 2.3.

motivated by checking the strong +wh-feature of C), non-wh-fronting is apparently not sensitive to the Superiority Condition. This is illustrated by the grammaticality of matrix short-distance null C questions such as (18b), which, as discussed above, do not involve overt wh-movement. I return to the exceptional behavior of non-wh-fronting with respect to Superiority below.

Before that, let me address the issue of what serves as the driving force for non-wh-fronting of wh-phrases. Stjepanović (1995) argues convincingly that the driving force is focus. She shows that contrastively focused non-wh-phrases must move overtly in SC. (*Jovan* in (29) is contrastively focused.)

(29) a. JOVANA$_i$ su   istukli   t$_i$.
          Jovan   are   beaten
          'Jovan, they beat.'

She furthermore argues that SC wh-phrases are inherently focused and therefore must undergo focus-movement (see Stjepanović 1995 for empirical evidence for this claim based on the distribution of sentential adverbs). This is not surprising since similar claims have been made with respect to a number of languages, for example, Aghem, Basque, Hungarian, and Korean (see Horvath 1986, Rochemont 1986, and Kim 1997). In fact, Horvath (1986) argues that if a language has a special position for contrastively focused phrases, wh-phrases will move to that position. This seems plausible, given the similarity in the interpretation of wh-phrases and contrastively focused phrases. In contrast to simple new information focus, with contrastive focus the set over which the focus operates is closed. As Stjepanović notes, a similar situation is found with wh-phrases, whose value is drawn from an inferable and therefore closed set of items, delimited by the question itself.

Let us now return to the exceptional behavior of non-wh-fronting (focus fronting if Stjepanović is right) with respect to Superiority. The correctness of the descriptive generalization that this movement is not subject to Superiority reached with respect to SC is confirmed by certain data from Bulgarian, noted in Bošković (1997a).

We have seen that in Bulgarian all wh-phrases must be located in SpecCP overtly and that, like English, Bulgarian exhibits Superiority effects in all types of questions. To account for this I assume that, as in English, in Bulgarian the interrogative C has a strong +wh-feature and its Spec must always be filled in overt syntax. (In other words, the interrogative C must be inserted overtly in Bulgarian, which necessarily triggers overt wh-movement.)[13] However, checking the strong +wh-feature of C cannot be the only motivation for movement to SpecCP in Bulgarian. If this were the case it would suffice to move only one wh-phrase to SpecCP, as in English. However, in Bulgarian all wh-phrases must be fronted.

(30) a. *Koj   e   vidjal   kogo?
          who   is   seen   whom

      b. Koj kogo e vidjal?

      c. *Koj   udari   Ivan   kak?
          who   hit   Ivan   how

      d. Koj kak udari Ivan?

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[13] See Bošković (in press a) for explanation why, in contrast to French, interrogative C is obligatorily inserted overtly in English. The analysis readily extends to Bulgarian.

Bulgarian apparently also has obligatory non-wh-fronting of wh-phrases. Following Stjepanović's (1995) proposal for SC, in Bošković (in press b) I suggest that Bulgarian non-wh-fronting is also an instance of focus-movement.[14] Under this analysis one wh-phrase in Bulgarian multiple questions moves to check the strong +wh-feature of C (i.e. it undergoes wh-movement). Movement of other wh-phrases is an instance of pure focus-movement (i.e. it is motivated only by focusing). Now, if wh-movement, which affects only one wh-phrase, is, and focus-movement, which affects all wh-phrases, is not subject to the Superiority Condition we would expect the Superiority Condition to affect only one wh-phrase. More precisely, the highest wh-phrase should move first (satisfying Superiority with wh-movement) and then the order of movement should not matter (given that focus-movement is not subject to Superiority). As noted in Bošković (1997a, in press b) this is exactly what happens in Bulgarian. ((31) and (33) indicate that *kogo* is higher than *kak* and *kakvo* prior to wh-movement.)[15]

(31) a. Kogo   kak   e   tselunal   Ivan?
         whom   how   is   kissed   Ivan
         'How did Ivan kiss whom?'

     b. ?*Kak kogo e tselunal Ivan?

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

     b. Koj kak kogo e tselunal?

(33) a. Kogo   kakvo   e   pital   Ivan?
         whom   what   is   asked   Ivan
         'Whom did Ivan ask what?'

     b. ?*Kakvo kogo e pital Ivan?

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[14] A somewhat similar proposal is made in Izvorski (1993). Notice that, as in SC, contrastively focused phrases undergo overt fronting in Bulgarian. Also, as in SC, in Bulgarian wh-phrases are fronted even on the echo reading. Thus, (i) is ungrammatical even as an echo-question.

(i) *Ivan   e   popravil   kakvo?
      Ivan   is   fixed   what

In Bošković (1997c) I argue that Bulgarian differs minimally from SC in that in Bulgarian, the interrogative C is the focus licensor for wh-phrases, whereas in SC, either the interrogative C or I (Agr in the split INFL framework) can focus-license wh-phrases. (Both options are not always available in SC. See Bošković 1997c for detailed discussion.)

[15] Notice that the ungrammaticality of (ia-b) indicates that we cannot be dealing here with the same type of phenomenon as in English constructions like (iia-b), noted in Kayne (1984), where addition of a lower wh-phrase saves the derivation from a Superiority violation.

(i) a. *Kogo   koj   kak   e   tselunal?
           whom   who   how   is   kissed
     b. *Kogo   koj   kakvo   e   pital?
           whom   who   what   is   asked

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

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

　　 b. Koj kakvo kogo e pital?

We have seen so far that wh-movement is, and focus-movement is not, subject to Superiority. The question is now whether we can deduce the exceptional behavior of the latter movement with respect to Superiority (i.e. economy of derivation) from deeper principles. In the next section I will explore possible answers to this question.

2.3. Why is focus-movement of wh-phrases insensitive to Superiority?

One way of accounting for the lack of Superiority effects with focus-movement is to push this movement into the PF component and assume that the relevant principles of economy of derivation do not apply there. We have seen that at least in certain cases phonological information has an effect on the focusing of wh-phrases as well as the order of fronted wh-phrases. This indicates that PF plays at least some role in the phenomenon. The question is, however, whether the phenomenon can be pushed into the phonology in its entirety. I will not attempt to answer this question here. I merely note two potential difficulties for the all around PF movement analysis of focus-fronting. Focus-movement obviously has semantic import, which can be difficult, though maybe not impossible, to account for if the movement is pushed into PF and if the traditional model of the grammar, where the derivation splits into PF and LF, is adopted. Notice also that most other instances of PF movement argued for in the literature are very local, involving linearly adjacent words.[16] This is clearly not the case with focus-movement, which can take place across clausal boundaries. These are not necessarily unsurmountable problems. The PF movement analysis certainly merits more serious consideration than I have given it here. I turn now to analyses that consider focus-movement a syntactic operation.

One such analysis is provided in Richards (1997). Though rather interesting, the analysis cannot be maintained since it does not cover the full range of relevant data. The analysis accounts for the relevant data in Bulgarian, but cannot be extended to SC.

Richards posits the Principle of Minimal Compliance, which essentially says that any particular requirement holding of X needs to be satisfied only once per X:

(35)　Principle of Minimal Compliance (PMC)

　　　For any dependency D that obeys constraint C, any elements that are relevant for
　　　determining whether D obeys C can be ignored for the rest of the derivation for
　　　purposes of determining whether any other dependency D' obeys C.

Richards argues that moving the highest wh-phrase first satisfies the Superiority Condition in Bulgarian, so that after the first wh-phrase moves to C it does not matter in which order other wh-phrases will move. Though the account may be adequate for Bulgarian,[17] it cannot be extended to SC, since in SC constructions such as (18b) Superiority is

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[16] I have in mind here Morphological Merger and Prosodic Inversion.

[17] Under the multiple specifiers analysis Richards adopts, it is somewhat tricky to ensure that once Superiority, a derivational constraint under current assumptions, is satisfied by moving the highest wh-phrase to SpecIP, other wh-phrases cannot move to a SpecIP on the top of the originally created SpecIP (which would give us (ia-b) in fn 16). See Richards (1997) for details of the analysis.

not satisfied at all. Richards' PMC analysis thus fails to provide an explanation for the lack of Superiority effects with focus-movement.[18]

In Bošković (in press b) I present a principled economy explanation for the different behavior of focus and wh-movement with respect to Superiority. I argue that focus-movement and wh-movement differ with respect to where the formal inadequacy driving the movement lies. It is standardly assumed that with wh-movement, the inadequacy driving the movement, i.e. the relevant strong feature, lies in the target. This is why it suffices to front only one of the wh-phrases in (36) overtly. *What* checks the strong +wh-feature of C so that there is no need for other wh-phrases to undergo wh-movement.

(36)   What did John give to whom when?

Turning now to focus-movement, the very fact that every wh-phrase must undergo focus-movement strongly indicates that the inadequacy driving the movement, i.e. the strong feature, resides in the wh-phrases, not in the target of the movement. If the relevant strong feature were to reside in the target it would suffice to front only one of SC wh-phrases in multiple questions such as (37).[19]

(37)   a. Ko   šta   gdje   kupuje?
           who   what   where   buys
           'Who buys what where?'

       b. *Ko kupuje šta gdje?

       c. *Ko šta kupuje gdje?

       d. *Ko gdje kupuje šta?

---

[18] Richards does attempt to provide an account of the contrast between (18b) and (21b). (A similar analysis of (18b) is presented in Hornstein 1995.) He argues that, like Japanese, SC has A-scrambling. He further assumes that A-movement is not subject to Superiority and that short-distance scrambling, but not long-distance scrambling, can be A-movement. According to Richards, scrambling can feed wh-movement. (Note that Richards assumes that SC questions always involve wh-movement to SpecCP.) In short-distance questions, wh-phrases can undergo A-scrambling before wh-movement, which washes off any Superiority effects, due to the insensitivity of A-movement to Superiority. The escape hatch from the Superiority Condition is not available in long-distance questions such as (21), where A-scrambling is not possible. (A question, however, arises why the wh-phrases cannot undergo A-scrambling in the lower clause before moving to the higher clause, which would void the Superiority effect.) The account of the contrast between (18b) and (21b) has an undesirable side effect in that it incorrectly predicts no Superiority effects with embedded and overt C questions like (19b), (20b), and (22b), all of which involve short-distance movement of wh-phrases and, therefore, the A-scrambling derivation should be available.

The assumption that, like Japanese, SC has A-scrambling is also very problematic. SC crucially differs from Japanese in that scrambled direct objects cannot bind an anaphor within a subject, which is a standard test for A-movement. (German, a language to which Richards attempts to extend his analysis of SC, behaves like SC in the relevant respect (see Grewendorf and Sabel 1996). Furthermore, it is well-known (see Müller and Sternefeld 1996 and references therein) that German wh-phrases cannot undergo scrambling at all.)

(i)   a. *[Marka   i   Petra]$_i$ [prijatelji   jedan   drugoga$_i$]   mrze   t$_i$.   [SC]
            Marko   and   Petar   friends   each   other(gen)   hate
            'Marko and Petar, each other's friends hate.'
      b. [Mary   to   Pam]$_i$-ni   [otagai$_i$-no   hahaoya]-ga   t$_i$ atta.   [Japanese]
            Mary   and   Pam-dat   each other-gen   mother-nom   met
            'Mary and Pam, each other's mothers met.'

[19] Note that, as observed by Pesetsky (MIT lectures 1997) with respect to Bulgarian, (37b), where two wh-phrases remain in situ, is actually somewhat worse than (37c-d), where only one of the wh-phrases remains in situ. This is expected, given that in (37b) two strong features remain unchecked and in (37c-d) only one strong feature remains unchecked.

Focus-movement thus differs from wh-movement with respect to where the strong feature driving the movement resides. With focus-movement, the strong feature resides in the elements undergoing movement, and with wh-movement in the target. In Bošković (in press b) I argue that this difference is responsible for the different behavior of focus-movement and wh-movement with respect to Superiority.[20] Consider the following abstract configurations for wh- and focus-movement.

(38)   Wh-movement (linear order indicates asymmetrical c-command)

F	wh-phrase$_1$	wh-phrase$_2$	wh-phrase$_3$
+wh	+wh	+wh	+wh
strong	weak	weak	weak

(39)   Focus-movement

F	wh-phrase$_1$	wh-phrase$_2$	wh-phrase$_3$
+focus	+focus	+focus	+focus
weak	strong	stron	strong

The functional head F has a strong feature in (38). The feature has to be checked through the shortest movement possible. Hence, wh-phrase1 will have to move to F. If wh-phrase$_2$ or wh-phrase$_3$ moves to check the strong feature of F we get a Superiority effect.

In (39) the strong feature resides in wh-phrases. Again, the relevant feature must be checked through the shortest movement possible, which is movement to F. The order in which the wh-phrases are checking their strong focus feature against F, i.e., the order of movement to the FP projection, is irrelevant. For example, the derivation in which wh-phrase$_1$ checks its focus feature before wh-phrase$_2$ and the derivation in which wh-phrase$_2$ checks its focus feature before wh-phrase$_1$ are equally economical. The same nodes are crossed to check the strong focus feature of the wh-phrases. (I assume that only maximal projections count here.) Hence we do not get any Superiority effects.

Under the Economy account of Superiority, we thus correctly predict that Superiority effects will arise in the constructions in question when the strong feature driving the movement belongs to the target (when we have Attract), but not when it belongs to the elements undergoing movement (when we have Move). On the other hand, under Chomsky's (1973) original formulation of the Superiority Condition, given in (13a), as well as most other accounts of Superiority (see Cheng and Demirdache 1990, Lasnik and Saito 1992, and Pesetsky 1982, among others), the facts under consideration remain unaccounted for. Under these accounts we would expect to get Superiority effects with both wh- and focus-movement. The problem with these accounts is that it is simply not possible to make the information concerning where the formal inadequacy driving the movement lies, which determines whether a question will exhibit a Superiority effect, relevant to Superiority in a principled way. We thus have here empirical evidence for the Economy account of Superiority.

Before leaving the Move/Attract account, let me clarify how the account applies to Bulgarian. In Bulgarian constructions such as (31-34) and (ia-b) in fn 15, the wh-phrases have a strong focus feature and C has a strong +wh-feature. None of the features can be checked

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[20] It is important to bear in mind that, as a result, the account holds even if something other than focus serves as the driving force of non-wh-fronting (i.e. if the relevant strong feature of wh-phrases is something other than focus). For example, as pointed out by Steven Franks (personal communication), the analysis to be given in the text can be applied to Bulgarian even if, instead of a strong focus feature, Bulgarian wh-phrases have a strong +wh-feature, i.e., if both the interrogative C and wh-phrases have a strong +wh-feature in Bulgarian.

before the interrogative C is introduced into the structure. Once C is introduced all the features can be checked. The question is in which order they will be checked. As far as the strong features of the wh-phrases are concerned it does not matter in which order they will be checked. For example, whether the strong focus feature of *koj* in (32) is checked first or last the same number of maximal projections will be crossed to check it. This is not true of the strong feature of C, which has to be checked by the highest wh-phrase, namely *koj*. Since wh-phrases do not care in which order they will move, and since C cares about the order (*koj* must move first), a way to make everybody happy is to move *koj* first and then we can move the remaining wh-phrases in any order.[21]

The account presented in Bošković (in press b) is based on the assumption that strength can reside in elements undergoing movement, not just in the target. We have seen empirical evidence for this assumption from MWF constructions. Notice, however, that it would be conceptually more appealing if the formal inadequacy triggering movement were to always reside in the target. Then, it would be possible to overcome the inadequacy as soon as it enters the structure. This is generally not possible with formal inadequacies residing in moving elements. There, we need to wait until the checker enters the structure, which increases computational burden. I will show now that the relevant facts concerning MWF can be rather straightforwardly restated without positing strength in moving elements given a particular view of multiple feature-checking. Furthermore, my (in press b) account of the exceptional behavior of focus-movement with respect to Superiority can be maintained in its essentials.

In his discussion of Icelandic multiple subject constructions Chomsky (1995) proposes that one and the same head can attract a particular feature F more than once. We can think of multiple attraction by the same head as follows: (a) there are elements that possess a formal inadequacy that is overcome by attracting one feature F, (b) there are elements that possess a formal inadequacy that is overcome by attracting two features F, (c) there are elements that possess a formal inadequacy that is overcome by attracting three features F, etc. In this system it seems natural to have elements that possess a formal inadequacy that is overcome by attracting all features F.[22]

The attractor for wh-movement in languages like English (+wh C) is clearly an Attract one-F head. When there is more than one potential attractee, Attract one-F elements will always attract the highest potential attractee (the attractee that is closest to them) given that every requirement must be satisfied in the most economical way. Hence we get Superiority effects with Attract one-F heads. Suppose now that the focus attractor is an Attract all-F element. The focus attractor would then have to attract all focus feature bearing elements. It is clear that we would not expect any Superiority effects with Attract all-F elements. For example, the Attract all-F property of the focus head in the abstract configuration in (39) is clearly satisfied in the same way from the point of view of economy regardless of the order in which the wh-phrases move to the focus head. Regardless of whether the wh-phrases move in the $1-2-3$, $1-3-2$, $2-1-3$, $2-3-1$, $3-1-2$, or $3-2-1$ order, the same number of nodes will be crossed to satisfy the Attract all focused elements inadequacy of the relevant

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[21] Note that I assume that once the interrogative C is inserted, it is not possible to zero down on one particular strong feature (for example, the strong focus feature of *kogo*) and ignore other relevant strong features. All strong features (of both the target and the moving elements) must be considered in determining what to do next. This will become clearer under the alternative account sketched below.

[22] Given that there is no natural place for counting in the natural language it would not be surprising if only Attract all-F, Attract one-F, and possibly Attract two-F options are utilized in the natural language.

head. Hence, by economy, all orders should be possible. We thus account for the lack of Superiority effects with focus-movement.[23]

The Attract all-F account maintains the essentials of my (in press b) analysis of the different behavior of focus-movement and wh-movement with respect to Superiority without utilizing the notion of strength or positing formal inadequacies driving movement in moving elements (we are dealing here with a pure Attract system), which appears appealing conceptually. The different behavior of wh- and focus-movement with respect to Superiority follows from focus-movement having the Attract all-F property, and wh-movement having the Attract one-F property.[24]

Above, we have seen how Superiority effects can be used as a clue for determining when MWF languages have overt wh-movement, by which I mean movement to SpecCP motivated by checking the strong +wh feature of C. This is by no means a trivial issue, since, as we have seen above, wh-phrases in Slavic obligatorily undergo fronting independently of wh-movement. Teasing apart constructions that involve only this non-wh-fronting from those that also involve wh-movement is not an easy task. As discussed above, I have argued in my earlier work that Superiority can help us tease the two apart. Based on the distribution of Superiority effects, I have argued that Slavic questions do not always have to involve overt wh-movement, which was previously taken for granted. In the next section I will present additional arguments to this effect from Bošković (in preparation).

3. On the interpretation of multiple questions: pair list vs. single pair answers

In Bošković (in preparation) I give an argument that SC questions do not have to involve movement to SpecCP based on the interpretation of multiple questions. It is well-known that a pair list answer is obligatory in English questions such as (40).[25]

(40)   Who bought what?

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[23] Consider how this analysis applies to Bulgarian. In Bulgarian the interrogative C has two attracting features: an Attract one-F +wh-feature and Attract all-F +focus feature. It is clear that the most economical way of overcoming the formal inadequacies of C would require moving the highest wh-phrase first. After that it would not matter in which order the wh-phrases will move to C.

[24] Again, nothing hinges on focus being the exact driving force of non-wh-fronting of wh-phrases. Notice, however, that in Bulgarian we now do need to have two different features involved, which was not necessary under the Move/Attract analysis (see fn 20).)

Due to space limitations I cannot give here a full formalization of Attract all-F or explore its empirical consequences. I merely note that under the Attract all focused elements analysis we need to assume that phrases already located in a focus position are immune from attraction by another focus head; otherwise, the possibility of having focused elements in different clauses of the same sentence will be ruled out. (The matrix focus attractor would attract all focused phrases.) A similar assumption is actually needed in Chomsky's (1995) system even for Attract one-F cases, otherwise, the ungrammaticality of constructions like (i) would remain unaccounted for. ((i) comes out as syntactically well-formed in Chomsky's system if we do not ban a +wh C from attracting a +wh-phrase located in a +wh-feature checking position (interrogative SpecCP).)

(i) *What$_i$ do you wonder t$_i$ John bought t$_i$ (when)?

Notice also that although a head with an Attract all feature X property obligatorily undergoes multiple checking if there is more than one X present in the structure, it does not have to undergo checking at all if no X is present in the structure. The Attract all X property is then trivially satisfied. This seems desirable. Notice, for example, that although all contrastively focused elements and wh-phrases must undergo focus-movement in the languages under consideration, constructions in which focus-movement does not take place because no candidate for focus-movement (contrastively focused phrase or a wh-phrase) is present in the structure are well-formed.

[25] See, however, Ausín (in preparation) for some exceptions.

(40) cannot be felicitously asked in the following situation: John is in a store and in the distance sees somebody buying a piece of clothing, but does not see who it is and does not see exactly what is being bought. He goes to the shop-assistant and asks (40).

Interestingly, questions such as (40) are not cross-linguistically banned from having single pair answers. Thus, the Japanese and Chinese counterparts of (40) can have either single pair or pair list answers.[26] That is, in addition to situations appropriate for pair list answers, (41) can also be used in the situation described above. (I illustrate the relevant points with respect to Japanese. Chinese patterns with Japanese in the relevant respects.)

(41) Dare-ga   nani-o   katta   no?
      who-nom   what-acc   bought   Q

      'Who bought what?'

Non-subject questions such as (42) can also have single pair answers.

(42) John-wa   dare-ni   nani-o   ageta   no?
      John-top   who-dat   what-acc   gave   Q

      'Who did John give what?'

One obvious difference between English and Japanese/Chinese is that the former is a language with overt movement of wh-phrases to SpecCP, whereas the latter are wh-in-situ languages; that is, interrogative SpecCPs are filled in overt syntax by a wh-phrase in English, but not in Japanese and Chinese.[27] It is possible that the obligatoriness of syntactic movement of a wh-phrase to SpecCP for some reason forces the pair list interpretation on English questions such as (40). French confirms this conjecture.

Recall that French can employ either the in-situ or the wh-movement strategy in questions.[28] Significantly, single pair answers are possible in French, but only with in-situ questions. Thus, the in-situ multiple question in (43a) can have a single pair answer. This answer is degraded with (43b), involving overt wh-movement.[29]

(43) a. Il   a   donné quoi   ą   qui?
          he   has   given what   to   whom

          'What did he give to whom?'

      b. Qu'a-t-il donné ą qui?

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[26] The Japanese data were brought to my attention by Mamoru Saito (personal communication).

[27] I ignore here the possibility of null operator movement in Japanese questions (see Watanabe 1992) and concentrate on what happens to wh-phrases themselves.

[28] I will confine my discussion of French to non-subject questions, where it is clear whether the wh-movement or the in-situ option is employed.

[29] As discussed in Bošković (in press a, c), French wh-in-situ constructions involve LF wh-movement. (I show that even argument wh-in-situ constructions in French are sensitive to locality restrictions on movement.) If this LF movement affects the whole wh-phrase, (43a) and (43b) will have the same structure in LF, which will make it very difficult to account for the fact that they receive different interpretation. In Chomsky's (1995) Move F system, on the other hand, (43a) and (43b) will have different LFs. The operation Move will affect only the formal features of the higher wh-phrase in (43a). In contrast to (43b), its semantic features will remain in its base-position in (43a). The fact that (43a) and (43b) receive different interpretations may thus provide an argument for Move F.

The contrast between (43a) and (43b) strongly indicates that the availability of single pair answers depends on the possibility of not moving any wh-phrase to SpecCP overtly.

Turning now to the interpretation of multiple questions in South Slavic, notice that, as expected, Bulgarian, a MWF language in which interrogative SpecCPs are obligatorily filled by a wh-phrase overtly, patterns with English in that (44) requires a pair list answer.

(44) 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 in the relevant respect. Thus, SC (45) can have either a pair list or a single pair answer. This indicates that SC questions are well-formed even when no wh-phrase moves to the interrogative SpecCP overtly.

(45) Ko   je   šta   kupio?
     who   is   what   bought

     'Who bought what?'

4. Left dislocation

Another argument that SC questions do not have to involve overt movement of a wh-phrase to SpecCP given in Bošković (in preparation) involves left dislocation constructions.

In SC it is possible to place a non-wh phrase in front of fronted wh-phrases, as shown in (46) for single questions and (47) for multiple questions. I will refer to this construction as left dislocation (LD):

(46) Tu   knjigu,   ko   je   kupio?
     that book   who   is   bought

     'That book, who bought?'

(47) a. Tom   čoveku, ko   je   šta   poklonio?
        that   man   who   is   what   given

        'To that man, who gave what?'

     b. U toj   školi,   ko   je   šta   zaboravio?
        in that   school, who   is   what   forgotten

        'In that school, who forgot what?'

Rudin (1993) discusses LD constructions in Bulgarian and argues that LD phrases are adjoined to CP. If this is correct LD phrases can be present in the structure only when the CP projection is present overtly. Recall now that in SC questions, the CP projection can be inserted in covert syntax. In overt syntax, SC questions can be either CPs or IPs. The CP option obligatorily results in overt wh-movement since the +wh-feature of C is strong in SC and strong features must be checked immediately upon insertion (see fn 13). Since wh-movement is subject to the Superiority Condition, the CP option then must be ruled out when the order of fronted wh-phrases would have resulted in a violation of the Superiority Condition. Given that the presence of an LD phrase indicates the presence of a CP projection, we then predict that, in contrast to simple short distance null C question, LD constructions

will not tolerate Superiority violations. As shown by (48a-b),which contrast with (47a-b), the prediction is borne out. (Notice that I ignore the irrelevant echo-question reading.)[30]

(48) a. ??Tom čoveku, šta je ko poklonio?

      b. ??U toj školi, šta je ko zaboravio?

Notice also that, in contrast to (45), (47a-b) can only have pair list answers. This is expected given that, as discussed in section 3, overt movement to SpecCP obligatorily results in a pair list answer. Recall that the presence of an LD phrase requires overt insertion of the CP projection, which in turn triggers overt wh-movement. In contrast to (45), (47a-b) then must involve overt movement to SpecCP. Hence the obligatoriness of a pair list answer.

5. Russian

We have seen so far that Bulgarian and SC behave like non-MWF languages with respect to when they have wh-movement. SC has wh-movement whenever French has it. Bulgarian, on the other hand, is an English-type language with respect to wh-movement: Wh-movement is obligatory in Bulgarian in all contexts.[31] Given that we have MWF counterparts of French and English, a question arises as to whether there is a MWF counterpart of wh-in-situ languages such as Malay.[32] The variety of Russian examined in Stepanov (in press) seems to be such a language. Stepanov shows that Russian (or, to be more precise, the variety of Russian investigated in his paper) does not exhibit Superiority effects in any context. Thus, (49) shows that Russian contrasts with SC in that it does not display Superiority effects in embedded clauses and LD constructions:[33]

(49) a. Kto kak   postaraetsja, u togo   tak   i   polučitsja.
          who how   will-try   that-one that-way and   will-come out

          'The way whoever tries, that way it will come out.'

      b. Kak kto postaraetsja, tak u togo i polučitsja.

---

[30] Notice that French LD wh-in-situ constructions such as (i) are acceptable as true, non-echo questions.

(i) Marie, il   lui a   donné quoi?
     Marie, he   her has   given what
     To Marie, what did he give?'

I assume that in French, LD phrases can be adjoined to IP when the CP projection is not inserted overtly. (Recall that, as in SC, in French the CP projection is not inserted in overt syntax in questions in which wh-movement does not take place overtly.)

[31] It is worth noting here that the Bulgarian dialect spoken by one of my informants patterns with SC in the relevant respects (with respect to Superiority (lack of it in certain contexts) and the interpretation of multiple questions (the possibility of single pair answers in relevant constructions)). Apparently, Bulgarian does not uniformly belong to the English-type. Some varieties belong to the French-type.

[32] Traditional wh-in-situ languages such as Japanese and Chinese have actually been argued to belong to the English-type, i.e., they have been argued to have obligatory overt movement of a null operator in questions (for versions of this analysis, see Watanabe 1992, Aoun and Li 1993, and Cole and Hermon 1995). Cole and Hermon show that Malay is a true wh-in-situ language. They provide evidence that the null operator movement analysis is not appropriate for Malay.

[33] Note that a correlative construction rather than an indirect question is used as an example of embedded questions in Russian for the same reason as in SC (see section 2.2.): to avoid the possibility of parsing the matrix clause as an adsentential. Nothing, however, changes in the relevant respect if an indirect question is used.

Notice also that, according to Stepanov, as in Bulgarian and SC, phonological considerations may affect the order of fronted wh-phrases in Russian in certain cases.

(49) c. A   ètomu   čeloveku   kto   kogo   predstavil?
          and that   man   who   whom   introduced

      'And to that man, who introduced whom?'

      d. A ètomu čeloveku kogo kto predstavil?

Given that, as discussed above, Superiority serves as a clue for when MWF languages involve wh-movement (i.e. movement to SpecCP), these data indicate that Russian never has to have overt movement to SpecCP, which is the conclusion drawn by Stepanov (in press), who claims that the +wh feature of C in Russian is weak.[34] In other words, Russian is a MWF counterpart of wh-in-situ languages like Malay, the only difference between Malay and Russian being that Russian wh-phrases that do not move overtly to SpecCP still must be fronted for reasons independent of the +wh-feature. Stepanov extends the focus-movement analysis of SC and Bulgarian to Russian and argues that non-wh-fronting of Russian wh-phrases also involves focusing.[35]

Stepanov also notes that, as expected given that no wh-phrase has to move to SpecCP in Russian, Russian allows single pair answers in multiple questions such as (50).

(50) a. Kto   čto   kupil?
          who   what   bought

      'Who bought what?'

      b. A   ètomu   čeloveku   kto   kogo   predstavil?
          and that   man   who   whom   introduced

      'And to that man, who introduced whom?'

In conclusion, Slavic MWF languages do not uniformly have obligatory wh-movement to SpecCP. They behave like non-MWF languages in this respect. In fact, they exhaust the typology of the behavior of wh-phrases with respect to overt wh-movement in non-MWF languages. SC is a MWF counterpart of French, Bulgarian of English, and Russian of wh-in-situ languages such as Malay. This parallelism between MWF and non-MWF languages provides a confirmation of the current analysis.

6. Some additional aspects of Slavic questions

In the final section I will briefly mention several additional aspects of Slavic MWF constructions that deserve more careful examination.

Richards (1997) points out the following contrast with respect to Subjacency in Bulgarian.

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[34] Since (49a-d) involve contexts in which the interrogative C must be inserted overtly (see sections 2.2. and 4), if C were to have a strong +wh-feature it would trigger overt wh-movement, which in turn should lead to a Superiority effect.

[35] Stepanov observes that, as in SC and Bulgarian, contrastively focused phrases undergo overt fronting in Russian. Also, as in SC and Bulgarian, wh-phrases in Russian are fronted even on the echo-question reading. Thus, (i) is unacceptable even as an echo question.

  (i) ?*Ivan   kupil   čto?
        Ivan   bought   what

(51) a. *Koja   kniga¡ otreče senatorât [mâlvata če iska   da zabrani t¡]?
        which   book   denied the-senator the-rumor that wanted to ban

     'Which book did the senator deny the rumor that he wanted to ban?'

   b. ?Koj senator¡ koja kniga¡ otreče t¡ [mâlvata če iska da zabrani t¡]?
      'Which senator denied the rumor that he wanted to ban which book?'

Given that *koja kniga* in (51a) undergoes wh-movement (i.e., it checks the strong +wh feature of C) and in (51b) focus-movement (i.e., it checks only its own strong focus feature), Richards's data can be interpreted as indicating that, in addition to Superiority, focus-movement of wh-phrases does not obey Subjacency.[36] If true, this is a rather curious property of focus-movement that deserves further investigation.[37] Richards attempts to account for (51b) by appealing to the PMC (cf. (35)). He argues that, as a result of the PMC, Subjacency needs to be satisfied only once per complementizer. In (51b), movement of *koj senator* satisfies Subjacency and renders the matrix complementizer impervious to Subjacency violations. The analysis is very interesting, though somewhat problematic theoretically. It appears to crucially assume that with wh-movement, Subjacency is a requirement on the complementizer. This is very different from standard assumptions, where Subjacency is considered a requirement on successive links of the chain formed by wh-movement (see Chomsky 1986). So, we need either a new account of Subjacency, which would formalize it in a way needed for Richards' analysis to hold, or a new account of the very interesting Bulgarian data in (51), discovered by Richards.

Another interesting property of MWF concerns the ungrammaticality of multiple questions such as (52) that contain only adjunct wh-phrases.

(52) *Zašto je   kako istukao Petra?   [SC]
      why   is   how   beaten   Petar

     'Why did he beat Petar how?'

There are two ways of improving (52): (i) adding the conjunction *i,* (ii) adding another, non-adjunct wh- phrase.

(53) Zašto i   kako je   istukao Petra?
     why   and how   is   beaten   Petar

(54) ?Zašto je koga   kako   istukao?
      why   is whom   how   beaten

Focusing on conjoined questions, Browne (1972) observes that in English, conjoined questions are possible only with adjuncts. In SC, on the other hand, arguments can also occur in conjoined questions. In fact, as noted by Browne (1972), even yes-no questions can be used this way in SC, in contrast to English. Browne bases his conclusions on the following constructions:

---

[36] The statement may be too strong given that (51b) is somewhat degraded. However, according to Richards, it is better than (51a). Notice that the data in question are not crystal clear. Not all Bulgarian speakers get the contrast in (51).

[37] According to Richards, wh-movement in Bulgarian may also "violate" Subjacency in certain, more restricted contexts.

(55) a. When and where did you see them?

    b. *(I wonder) who and with what broke the glass?

    c. Ko   i   čime   je   razbio   staklo?
       who and with-what is broken window

(56) a. *Did you and where see them?

    b. *I don't know whether and where you saw them.

    c. Da li   i   gdje   si   ih   video?
      whether and where   are   them   seen

It is not quite clear what is responsible for the ungrammaticality of (52), or its improvement in (53-54) and the difference between English and SC illustrated in (55-56). (For discussion of (52) and (54) see Bošković (1994) and for discussion of (53) and (55-56) see Browne (1972).)

Finally, let me also briefly mention that at least some Slavic languages have partial wh-movement constructions, which are characterized by the presence of a wh-phrase in the interrogative SpecCP that is not interpreted as a true wh-word (i.e., it does not lexically contribute to the meaning of the question), the true wh-word undergoing overt movement within a lower, non-interrogative clause. Stepanov (1997) observes an interesting fact about Slavic partial wh-movement: Some Slavic languages (Stepanov cites Russian and Polish) differ from other more well-known partial wh-movement languages such as German and Hindi in that they can use 'how' as the scope marker in partial wh-movement constructions. ('What' is typically used with partial wh-movement in other languages.)

(57) Kak   vy   dumaete,   kogo   Ivan   ljubit?   [Russian]
      how   you   think   whom   Ivan   loves
      'Whom do you think that Ivan loves?'

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