On the order of wh-phrases in Bulgarian multiple wh-fronting*

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I. Introduction

This paper is more an attempt to enlarge the empirical basis of multiple wh-questions in Bulgarian than to present a new analysis of the quite complex issue of Superiority (only in the last section we briefly discuss some implications which the data seem to point to).
Bulgarian, as opposed to other Slavic languages, is known to display a rather rigid ordering of wh-phrases in (non-echo) multiple wh-fronting, a consequence, it is generally assumed, of Superiority (Rudin 1988; Bošković 1997, 1998a, 2002, Richards 1997/2001, Pesetsky 2000, Grewendorf 2001, among others). See, e.g., (1) and (2):

(1)a. Koj kakvo pravi?   (Rudin 1988,481)
     who what does 'Who is doing what?'
   b. *Kakvo koj pravi?   (Rudin 1988,482)
      what who does 'What is who doing?'
(2)a. Kogo kak e tselunal Ivan?   (Bošković 1997,234)
     whom how is kissed Ivan 'How did Ivan kiss who?'
   b. *Kak kogo e tselunal Ivan?
      how whom is kissed Ivan

The literature, nonetheless, reports cases of apparently freely ordered multiple wh-phrases (in fact, with one of the two orders preferred over the other). Cf., e.g., (3)-(7). Moreover some of the possible orders even appear to violate Superiority (see in particular (6)b, where a wh-direct object precedes the wh-subject and (7)b, where a wh-adjunct precedes the wh-subject):

 (3)a. Kogo kâde ste   videli?   (cf. Bošković 1997, 234)
      whom where were-you seen 'Who have you seen where?
    b.?(?)Kâde kogo ste   videli?   (cf. Bošković 1997, 234)
       where whom were-you seen 'Where have you seen who?'
(4)a. ?Kakvo kâde šte složiš?
      what where will put-you 'What will you put where?'
   b. Kâde kakvo šte složiš?
      where what will put-you 'Where will you put what?'
(5)a. ?Kakvo na kogo mu   xaresva? (Billings and Rudin 1996, 40)
      what to whom   to-him appeals 'what appeals to whom?'
   b. Na kogo kakvo mu   xaresva? (Billings and Rudin 1996, 40)
      to whom what to-him appeals 'what appeals to whom?'
(6)a.?(?)Kakvo kogo e spoletjalo? (cf. Billings and Rudin 1996, 38)
        what whom is stricken 'What struck whom?'
   b. Kogo kakvo e spoletjalo?   (cf. Billings and Rudin 1996, 38)
      whom what is stricken 'What struck whom?'

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(7)a. ?Kakvo kâde raste? (Billings and Rudin 1996, 42, and fn.10)
     what where grows 'What grows where?'
   b. Kâde kakvo raste?   (Billings and Rudin 1996, 42, and fn.10)
      where what grows 'What grows where?'

Despite appearances, we will try to show that the free ordering of wh-phrases is only apparent and that there may be no real Superiority violations. A wh-phrase will turn out to occupy different positions as a consequence of its internal makeup and interpretation, arguably in compliance with (a generalized version of) Superiority (see section VII).[1]
Our first piece of evidence for this conclusion comes from the relative order of wh-adjuncts.

II. **The order of wh-adjuncts**

As shown by (8) and (9), the order of wh-adjuncts appears to be very strict: *koga* 'when' necessarily precedes *kâde* 'where', and *kâde* 'where' necessarily precedes *kak* 'how'. If transitivity holds, *koga* 'when' should also precede *kak* 'how'. (10) shows that this is precisely the case, which in turn suggests that the overall order of the wh-adjuncts is: *koga* > *kâde* > *kak*.

(8)a. Koga kâde šte hodiš   tova ljato?
      when where will go-you this summer 'When will you go where, this summer?'
   b. *Kâde koga šte hodiš   tova ljato?
       where when will go-you this summer

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[1] We leave aside cases with more than two wh-phrases, which are said to allow free ordering of all but the first wh-phrase (Bošković 1997, 1999, 2002; Richards 1997/2001; Pesetsky 2000, among others). The reason we do that is that there are exceptions to this freedom, a fact which clearly requires further investigation. So, for example, while (i)a and b are equally acceptable (cf. Bošković 1997, 239), our informants do not seem to allow free ordering of the second and third wh-phrase in cases like (ii), (iii) and (iv), among others:
 (i)a. Koj kogo kak e tselunal?
      who whom how is kissed 'Who kissed whom how?'
   b. Koj kak kogo e tselunal?   (cf. (2)b)
(ii)a. Koj kogo po kakâv način e tselunal?
      who whom in what way is kissed 'Who kissed whom in what way?'
   b. *Koj po kakâv način kogo e tselunal?
(iii)a. Koj kâde kolko   e poharčil?
       who where how much is spent 'Who spent how much where?'
    b. *Koj kolko kâde e poharčil?
(iv)a. Na kogo koga kak šte pomogneš?
        to whom when how will you help 'To whom will you help when how?'
    b. *Na kogo kak koga šte pomogneš?
We also leave aside embedded contexts, which seem to rescue some of the orderings which are excluded (or dispreferred) in matrix questions. For example, while (19)b in the text below is quite marginal as a matrix question, it improves considerably as an embedded question:
(v) *Iskam da mi kažes   koga kogo posreštaš utre.*
   want-I to me tell-you   when whom meet-you tomorrow
   'I want you to tell me when whom you will meet tomorrow'
The contrast between (v) and (19b) may have to do with the fact that in Bulgarian, a separate contrastive focus position above the interrogative wh-phrase is available in embedded contexts but is quite marginal in root contexts, cf. (vi). (Note that in (v) above, *koga* is pronounced with heavier stress than *kogo*):
(vi)a. ??UTRE   kogo da izpitam?
        Tomorrow (focus) whom to examine-I 'TOMORROW, who should I examine?'
    b. Nikoj ne mi kaza   UTRE   kogo da izpitam.
       nobody not me told tomorrow (focus) whom to examine-I
       'Nobody told me TOMORROW whom I should examine'

(9)a. Kâde kak si se dâržal?
    where how are-you behaved 'where did you behave how?'
  b. *Kak kâde si se dâržal.
     how where are-you behaved
(10)a Koga kak si se dâržal?
    when how are-you behaved 'when did you behave how?'
  b *Kak koga si se dâržal?
     how when are-you behaved

III. **The order of wh-objects w.r.t wh-adjuncts**

The rigid ordering of wh-adjuncts proves instrumental in revealing the distribution of wh-arguments. As we will see, a wh-argument bearing a certain grammatical relation (say, direct object), does not occupy one and the same position w.r.t. the wh-adjuncts, but comes to occupy different positions depending on its internal makeup (w.r.t. such features as [human] and [D-linked]).
Consider first prepositional indirect objects (similar facts hold for other prepositional objects). The examples below show that *na kogo* 'to whom' must precede all of the adjuncts, while *na kolko* N 'to how many N' phrases occupy a lower position – they follow *koga* 'when' and *kâde* 'where', but precede *kak* 'how':[2]

(11)a Na kogo kak šte prepodadeš tozi urok?
     to whom how will teach-you this lesson 'To whom will you teach this lesson how?'
   b. *Kak na kogo šte prepodadeš uroka?
(12)a. Na kogo kâde si daval podarâci?
      to whom where are-you given presents 'To whom did you give presents where?'
   b. ???Kâde na kogo si daval podarâci?
(13)a Na kogo koga šte se obadiš?
       to whom when will call-you   'Who will you call when?'
   b ??Koga na kogo šte se obadiš?
(14)a. Koga/kâde na kolko xora si pomagal?
     when/where to how many people are-you helped
      'How many people did you help when/where?'
    b. *?Na kolko xora koga/kâde si pomagal?
(15)a. Na kolko xora kak možeš da pomogneš?
      to how many people how can-you to help
      'How many people can you help how?'
   b.*Kak na kolko xora možeš da pomogneš?

Putting together the order of the adjuncts with the relative positions of the two types of indirect wh-objects illustrated above, we arrive at the following order:

(16) *na kogo > koga > kâde > na kolko* N   *> kak*
     'to whom' 'when' 'where' 'to how many'   'how'

We submit that the different distribution of the indirect objects is related to their different feature specification: while *na kogo* is positively specified for the feature [human], *na kolko* N phrases are underspecified for that feature, since their head N can have human, but also non-human reference (e.g., *na kolko studenti* 'to how many students', *na kolko bolnitsi* 'to how many hospitals', etc.).[3]

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[2] We come back later to the (quite) marginal, rather than totally ungrammatical, status of (12)b/(13)b.
[3] The relevance of the feature [human], which was first noted in Billings and Rudin (1996), will be shown below to play a role also in the distribution of direct wh-objects, and subjects.

Multiple questions containing two [+human] wh-objects also show a strict ordering. As noted by Billings and Rudin (1996, 41), and confirmed by our informants, the direct wh-object must always precede the indirect wh-object. Cf. (17):

(17)a. Kogo na kogo   šte predstaviš?
          whom to whom will introduce-you   'Whom will you introduce to whom?'
      b. *Na kogo kogo šte predstaviš?

We expect, then, on the basis of both (16) and (17), that by transitivity *kogo* should precede whatever *na kogo* precedes, i.e. all of the wh-adjuncts, as well as *na kolko* N phrases. That this is correct is shown by the a) examples of (18)-(21). We come back to the more marked (and prima facie unexpected) alternative orders of (18)b and (19)b:

(18)a. Kogo kâde šte nastaniš?
          whom where will accommodate-you 'Whom will you accommodate where?'
      b. ?Kâde kogo šte nastaniš?
 (19)a. Kogo koga šte posreštaš?
          whom when will meet-you 'Whom will you be meeting when?'
      b. ??Koga kogo šte posreštaš?
(20)a. Kogo kak šte posrešneš?
          whom how will meet-you   'Whom will you meet how?'
       b. *Kak kogo šte posrešneš?
(21) a. Kogo na kolko studenti šte predstaviš?
          whom to how many students will introduce-you
      b. *Na kolko studenti kogo šte predstaviš?

(22) summarizes the relative order of the wh-phrases considered so far:

(22)   *kogo* >   *na kogo* > *koga* > *kâde* > *na kolko* N   > *kak*
          'whom' 'to whom' 'when' 'where'   'to how many' 'how'

Looking at the distribution of other direct wh-objects, we find that wh-objects which are specified negatively, or are underspecified, for the feature [human] show a distribution which is markedly different from that of the [+human] *kogo* 'whom'. This is shown by the examples below: (23)a and (25)a, alongside (4)b, feature the [-human] wh-object *kakvo* 'what' [4]; (24)a features the wh-phrase *kolko* (N) 'how much/how many (N)'. Both types of direct wh-objects (similarly to *na kolko* N phrases seen above) ordinarily follow the adjuncts *kâde* and *koga*, and precede *kak*:[5]

(23)a. Koga/kâde kakvo kupuvaš?
          when/where what buy-you   'When are you buying what?'
     b.?(?)Kakvo koga/kâde kupuvaš?
(24)a. Koga/kâde kolko (pari) si poxarčil?
          when/where how much (money) are-you spent
        'How much (money) did you spend when/where?'
     b. *Kolko (pari) koga/kâde si poxarčil?

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[4]*Kakâv/kakva/kakvo/kakvi* N 'what (kind of) N' phrases pattern with *kakvo* and *kolko* (N) phrases in terms of distribution. Like *kolko* (N) phrases, they are also underspecified for the feature [human] (cf. *kakâv student* 'what student', *kakâv stol* 'what chair', etc.).
[5]In fact, *kak* must follow all wh-phrases (cf. (2), (9)a, (10)a, (11)a, and (15)a above), though direct object *kolko* (N) phrases for some (semantic?) reason do not easily combine with *kak,* in any order.

(25)a. Kakvo kak šte napraviš?
     what how will do-you 'What will you do how?'
  b. *Kak kakvo šte napraviš?

The low position of *kakvo* and *kolko* (N) phrases leads to certain expectations. If a strict hierarchical order is assumed, such phrases should be preceded by whatever wh-material precedes the adjuncts. In other words, we expect that the direct and indirect wh-objects *kogo* and *na kogo* should appear to their left. That this is indeed the case can be seen from the following examples, some well-known from the literature (cf. in particular Bošković 1997):

(26) a. Kogo kakvo e pital Ivan   (Bošković 1997 [20])
        whom what is asked Ivan   'Who did Ivan ask what?'
   b. *Kakvo kogo e pital Ivan
(27) Na kogo kakvo e pokazal Ivan?[6]
       to whom what is shown Ivan   'What has Ivan shown to whom?'
(28) a. Na kogo kolko pari šte dadeš?
        to whom how much money will give-you 'Whom will you give how much money?'
   b *Kolko pari na kogo šte dadeš?

Summing up what we said so far, the relative orders among object wh-phrases and wh-adjuncts appear to conform to the following generalizations:
1. (Non-D-linked) [+human] wh-objects move to a space above the space to which *koga* 'when' and *kâde* 'where' move to.
2. (Non-D-linked) wh-objects which are either negatively specified or underspecified for the feature [human] (namely, wh-phrases like *kakvo* 'what' and (*na*) *kolko* N 'how much/many N') move to a space below *koga* 'when' and *kâde* 'where' and above *kak*.

Table 1 summarizes the orders of the wh-phrases so far reviewed:

kogo 'whom'	*na kogo* 'to whom'	*koga* 'when'	*kâde* 'where'	(*na*) *kolko* N 'to how many N'	*kak* 'how'
				kakvo 'what'	

Table 1.

IV. **The order of wh-subjects w.r.t. wh-adjuncts**

A comparable situation is found with wh-subjects because they also come to occupy different positions, depending on their internal makeup. As expected, [+human] *koj* 'who' patterns with [+human] *kogo* and *na kogo* in having to precede *kâde*, *koga* ((29)-(30)), and *kak*.

(29)a. Koj kâde šte spi?   (Billings and Rudin 1996, 41)
     who where will sleeps 'Who will sleep where?'
   b. * Kâde koj šte spi?
(30)a. Koj koga pristiga?
     who where arrives 'Who will arrive when?'
   b. *Koga koj pristiga?

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[6]According to our informants, *kakvo* may more markedly precede the prepositional indirect object (cf. (i) below). Some speakers seem to fully accept such examples (cf. Grewendorf 2001, fn.19) while others seem to fully exclude it (cf. Rudin 1985, 119):
(i)?(?)Kakvo na kogo e pokazal Ivan
      what to whom is shown Ivan   'What did Ivan show to whom'

On the other hand, subject *kakvo* and *kolko* (N) phrases pattern together with their object counterparts in that they follow *kâde* and *koga*:

(31)a. Koga kakvo te pravi štastliv?
        when what you-acc makes happy 'What makes you happy when?'
    b.??Kakvo koga te pravi štastliv?
(32)a. Kâde kakvo stava sega po sveta?
       where what happens now in world-the 'What is happening where around the world?'
    b. *Kakvo kâde stava sega po sveta?
(33)a. Kâde/koga kolko   se   investira v častnija sektor?
       where/when how much refl.cl. invests in private-the sector
        'Where/when how much is invested in the private business?'
    b. *Kolko kâde/koga se investira v častnija sektor?

These data are summarized in Table 2:[7]

[+human]					[-human] or underspecified for [human] Subject (indirect/direct) Object		
koj	*kogo*	*na kogo*	*koga*	*kâde*	*kakvo/kolko* N	*kakvo/ (na) kolko* N	*kak*

Table 2.

Some of the alternative orders in the examples above were seen to vary in marginality. For some speakers *kakvo* (whether object or subject) can appear to the left of the following wh-phrases: *kogo* ((6)a), *na kogo* ((i) of fn.6), *kâde* ((4)a, (7)a, (23)b), and *koga* ((23)b, (31)b).
Similarly, for some speakers, *kâde* and *koga* can precede *kogo* (cf. (18)b, (19)b, Bošković 1997, fn. 7, and Billings and Rudin 1996, 42), as well as *na kogo* (cf. (12)b and (13)b). Such possibilities are thus in apparent violation of the orders in Table 2.
We submit that the problem posed by these marked orders of *kakvo* and *kâde/koga* can be made sense of if they are taken to access (more markedly) a higher position, the one reserved for D-linked phrases (see the next section).
One first piece of evidence comes from the contrast between the impossible (32)b, which contains a non easily D-linkable *kakvo*, and (4)a/(7)a above (repeated as (34)a-b), which more readily allow for a D-linked interpretation of *kakvo*.

(34)a.=(4)a ?Kakvo kâde šte složiš?
            what where will put-you 'What will you put where?'
    b.=(7)a ?Kakvo kâde raste?
            what where grows 'What grows where'

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[7] Within the same slot wh-subjects appear to precede wh-objects. See, e.g., (i)a-b, exemplifying the case of wh-phrases underspecified for the feature [human]:
(i)a. Kakvi grupi xora   po kolko pari   xarčat   na mesets
     what groups people each how much money   spend-they in a month
     'What groups of people spend monthly how much money'
    b. *Po kolko pari kakvi grupi xora xarčat na mesets
Here, we abstract away from a number of complications, like the apparent ban on combining a *kakvo* subject with a *kakvo* object, as well as with a *kolko* object, regardless of order.

A second piece of evidence comes from the distribution of *koe* 'which' (the inherently D-linked counterpart of *kakvo*),[8] which obligatorily precedes the wh-adjuncts (and, more generally, all non-D-linked wh-phrases):

(35)a. Koe (spisanie) kâde   si složil?   b.*Kâde koe (spisanie) si složil?
    which journal   where are-you put   where which journal are-you put
    'Which [one] did you put where?'
(36)a. Koe kâde otiva?   b. *Kâde koe otiva?
    which where goes   where which goes
    'Which [one] goes where?

V. The order of D-linked and non-D-linked wh-phrases

Phrases in which *koj* functions as a specifier, i.e. *koj/koja/koe/koi* (N) ('which' phrases) are inherently D-linked and must precede all non-D-linked wh-phrases. This may lead to the reversal of the canonical order specified in Table 2, as in (37)a (vs. (38)a, where both wh-phrases are non-D-linked)[9], and may also lead to apparent violations of Superiority (for previous discussion, see Richards 1997/2001, Grohmann 1998, 2000, and Jaeger 2003, 2004).

(37)a. Koi kartini   na kogo   za Boga   iskaš pak da podarjavaš?
        which paintings to whom for God's sake   want-you again to donate-you
        lit. 'Which paintings do you want again to donate to whom on earth'
     b. *Na kogo za Boga koi kartini pak iskaš da podarjavaš?
(38) a. Na kogo za Boga   kakvi kartini pak   šte davaš?
        to whom for God's sake what paintings again will give-you
        'What paintings will you again be giving to whom?'
     b. *Kakvi kartini na kogo za Boga pak šte davaš?

The only exception to the order D-linked > non-D-linked seems to be the fronting of a D-linked wh-phrase over a *koj*-subject (cf. Krapova 2002b and Jaeger 2004), which is unacceptable under a true question reading in a matrix question (the order becoming more acceptable in an indirect question - cf. fn.1):

(39) a. *?Koja studentka koj šte izpita?
            which student who will examine
      b. Koj koja studentka šte izpita?
         who which student will examine

The ungrammaticality of (39)a may be taken to suggest that *koj* 'who' actually belongs to the same paradigm as *koj* (N) 'which', with the head N left implicit and interpreted necessarily as [+human]. This conclusion appears supported by the similar case of the quantifier *vsički* 'all', which also requires a [+human] interpretation when it occurs without the head noun (*Utre šte potârsja vsički* 'Tomorrow I will look for all (=everyone/*all books, etc.)'. If so, the

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[8] D-linked wh-phrases can show up either as full *which*-phrases or in a reduced (elliptical) form in which the head noun is missing but implicitly understood from previous context. The 'which' paradigm displays the following gender and number forms:
(i) *koj* (*student/stol*) 'which (student/chair) – masculine, singular
    koja (*žena/kniga*) 'which (woman/book) – feminine, singular
    koe (*momče/spisanie*) 'which (boy/journal) – neuter, singular
    koi (*studenti/knigi/spisanija*) 'which students/books/journals) – m/f/n plural
[9] We use *za Boga* 'for God's sake' (one Bulgarian equivalent of "the hell" phrase) to force the non-D-linked reading of *na kogo*.

ungrammaticality of (39a) is no longer unexpected as both wh-phrases belong to the same D-linked "space", within which subjects precede objects. (Cf. fn.7, and section VII below.)
The results so far are summarized in Table 3:[10]

D-linked wh-[11]	Non-D-linked wh-phrases						
koj/koja/koe/koi (N) (*kogo*) (*na kogo*) (marked)*kakvo*$_{Sub/Obj}$ (marked) *kâde/koga*	*kogo*	*na kogo*	*koga*	*kâde*	*kakvo*$_{Subj}$ *kolko*$_{Subj}$ N	*kakvo*$_{Obj}$ (*na*)*kolko*$_{Obj}$ N	*kak*

Table 3.

VI. The order of clitic resumed and non-clitic resumed wh-phrases[12]

Let us now turn to another type of multiple wh-constructions, containing an inherently D-linked phrase resumed by a clitic.
From cases such as (40) it would seem that clitic resumption is optional:

(40) Koja kartina na kogo/na koj prijatel   si (ja) posvetil?
     which painting to whom/to which friend have-you it dedicated
     'Which painting have you dedicated to whom/to which friend?'

This is, however, dubious. For one thing, as (41) shows, clitic resumption is not available for the second of two wh-phrases when the first is not itself resumed by a clitic.
Moreover, as (42) shows, clitic resumption becomes obligatorily if the leftmost D-linked wh-phrase is separated by a parenthetical from the second wh-phrase (D-linked or not). (cf. Krapova 2002b):

(41) a. Na kogo koja kartina   si (*ja) posvetil?
        to whom which painting   have-you it dedicated
        'Which painting did you dedicate to whom?'
     b. Na koj prijatel koja kartina si mu ja posvetil
(42) a. Koja kartina, <u>spored tebe</u>,   kâde *(ja) e risuval tozi xuždonik?
        which painting, according to you,   where it is painted this artist
        'According to you, which painting did this artist paint where?'
     b. Koja kniga, <u>spored tebe</u>,   na koj prijatel da (*mu) ja dam?
        which book, according to you, to which friend should (him) it give-I
        'According to you, which book should I give to which friend?'

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[10]Things are actually more complex in that (39)a seems to improve if the wh-phrase refers to a non-human entity:
(i) ?(?)Koja kniga koj e napisal
      which book who is written   'Who wrote which book?'
We submit that the contrast between (39)a and (i) is related to the contrast between (ii)a and (ii)b, which suggests that, in Bulgarian, phrases referring to non-human entities are easier to enter a null Operator Topic construction (cf. fn.13 below) than phrases referring to human individuals:
(ii)a. Filma šte gleda Maria   b. *?Ivan šte gleda Maria
 film-the will watch M. 'Maria will watch the film'   I. (obj) will watch M. (subj.) 'Maria will look after Ivan'
This in turn suggests that *koja kniga* in (i) is located in an operator topic position (giving rise to an apparent Superiority violation).
[11] In the D-linked column we have also indicated the possibility of D-linking *kogo* and *na kogo*, although we are not giving evidence for that here.
[12] This section has gained considerably from extensive discussions Iliyana Krapova had with Željko Bošković.

c. Na koj prijatel, <u>spored tebe</u>, koja kniga da mu (*ja) dam?
  to which friend, according to you, which book to him (it) give-I
  'According to you, to which friend should I give which book?'

What these facts seem to suggest is that material preceding the parenthetical correlates with obligatory presence of a resumptive clitic, while material following the parenthetical correlates with obligatory absence of such a clitic. This in turn means that the apparent optionality in (40) should be interpreted as representing two different structures: one involving a position (call it XP) which can be targeted only by clitic resumed (inherently) D-linked wh-phrases; the other involving a position (call it YP) which can be targeted only by non-clitic resumed (inherently) D-linked wh-phrases. XP and YP occur, respectively, to the left and to the right of the parenthetical. (Cf. Krapova 2002a,b, and Jaeger 2003, 2004 for observations apparently leading in the same direction). This is sketched in (43):

(43) [$_{XP}$*Cl-D-linked wh* [parenthetical [$_{YP}$ *non-Cl-D-linked wh* [$_{ZP}$ *non-D-linked wh* [$_{IP}$ ..cl...

A strong indication that XP and YP are distinct projections comes from the contrast between (44a) and (44b):

(44) a. Koe (meroprijatie), spored tebe, koj trjabva da *(go) provežda?
  which (initiative), according-to you, who must Prt it carry out
  'Which (initiative), according to you, who should carry out?'
 b. *Kakvo (ot tezi nešta), spored tebe, koj trjabva da go svârši?
  what (of these things), according-to you,   who must to it finish
 c. ?Kakvo (ot tezi nešta), spored tebe, na kogo da zanesa?
  what (from these things), according to you, Prt whom to bring-I
  'What [which] (of these things) should I bring to whom?'

(44b) contains the wh-phrase *kakvo* 'what' (the non-D-linked counterpart of *koe*) which has been forced into a D-linked reading by including it into a partitive phrase. Nevertheless, the question is ungrammatical. *Kakvo* cannot be clitic resumed in true questions (according to most speakers), although as we mentioned earlier, in the absence of an inherently D-linked phrase, it is in principle possible to D-link it (as also indicated by the possible alternative order *kakvo > na kogo* in (44c) apparently violating their canonical order). The contrast between (44b) and (44c) thus shows that the highest position *kakvo* can target is still lower than the position occupied by *koe* in (44a). Therefore, we can conclude that the pre-parenthetical position cannot be occupied by non-clitic resumed D-linked material.
The parenthetical, in addition to the position it occupies in (44), can also occupy a sentence initial position (cf. (46)), as shown by the examples in (45):

(45) a. <u>Vpročem</u>, koja kartina, <u>spored tebe</u>, koj *(ja) e narisuval?
  by-the-way which painting according-to-you who it is painted
  'By the way, according to you, who painted which painting?'
 b. <u>Vpročem</u>, koja kartina<u>, spored tebe</u>, koj xudožnik *(ja) e narisuval?
  by-the-way which painting according-to-you which artist it is painted
  'According to you, which painting did which artist painted?'
(46)
parenthetical [XP   parenthetical [YP   [ZP   [IP cl$_{XP}$
   Cl-D-linked wh-   *D-linked wh-* *non-D-linked wh-*

Within a finer-grained CP structure (cf. Rizzi 1997), XP can be identified with the CLLD Topic position (TopP)[13] (cf. also Krapova 2002b, Jaeger 2003, 2004, Grohmann to appear); YP with a position specialized for D-linked phrases (D-LP); and ZP with a position specialized for non-D-linked phrases, the traditional CP, we may assume.[14]

In addition to the presence vs. absence of a corresponding clitic, the two D-linked positions can be differentiated on the basis of their quantificational status. While XP, like topical projections in general, is non-quantificational, YP is quantificational, as shown by the systematic contrasts below.

WCO effects

Lack of WCO effects is one of the properties characterizing CLLD Topic structures in contrast to quantificational structures (cf. Rizzi 1997).

In Bulgarian, all Clitic Left Dislocated (CLLD) material (indefinite affirmative quantifiers with specific interpretation, D-linked universal/distributive quantifiers, partitive phrases, Topics, etc.) do not show WCO effects. The same is true for the clitic resumed wh-phrases illustrated in (47)a. On the other hand, WCO effects are present with exactly the same types of elements if the clitic is missing, cf. (47)b. We therefore conclude that *na koj student* occupies an operator position in (47b) but not in (47a):

(47) a. Na koj student$_i$ <u>mu</u> e daval   pari bašta mu$_i$? cf. Na Ivan mu e dal pari bašta mu
    to which student him is given money father his   to Ivan him is given money father his
    b. Na koj student$_i$ e daval pari bašta mu$_{*i/j}$ cf. *Na Ivan e dal pari bašta mu.
      to which student is given money father his   to Ivan is given money father his

Interaction with quantifiers

Another distinction between the two types of positions comes from their interaction with quantifiers (Roumyana Pancheva, p.c.). (48a) shows that while D-linked phrases may have both wide and narrow scope with respect to the (non-D-linked) distributive quantifier *vseki* 'everybody'. Cl-D-linked phrases necessarily have wide scope (cf. (48)b):

(48) a. Koja kniga e pročel vseki?   wide and narrow scope
    which book is read everyone
    'Which book did everyone read?'
    b. Koja kniga <u>ja</u> e pročel vseki?   wide scope only
    which book it is read everyone

The evidence that we presented so far shows that Spec,TopP is a non-quantificational position, while Spec,D-LP (the lower position hosting D-linked wh-phrases) is a quantificational position. The results are summarized in Table 4. In the Clitic resumed Topic wh- "space" we have indicated the non-bare inherently D-linked wh-phrases, as well as the D-

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[13] Richards (1997/2001, 95) and Grohmann (1998, 44, 2000, 278) propose that all D-linked wh-phrases target a (Wh-)Topic position (though neither discusses the issue of clitic resumption). This would need to be qualified in view of the apparent existence of two distinct Topic constructions in Bulgarian: Clitic Left Dislocation and one involving (null) operators, given in (i) and (ii), respectively (see Krapova 2002a, and Lambova 2000, 2001 for some relevant examples). However, the question still remains whether D-linked wh-phrases target the Operator Topic position or some other position (cf. section VII below for further discussion).
 (i) [$_T$Kufara]   Ivan NA MARIA li   šte *(go) dade?
     suitcase-the Ivan to Mary Interr/Foc PRT will it give 'The suitcase, is it to Mary that Ivan will give?'
(ii) [$_T$Kufara] koj šte prenese do garata?
     suitcase-the, who will carry until railway station
[14] We take each "space" (non-D-linked, D-linked, Cl-D-linked) to involve a hierarchy of projections hosting the different wh-phrases.

linkable bare wh-phrases *kogo* and *na kogo*, which can also be clitic-resumed (cf. Dimitrova-Vulchanova & Hellan 1999, Jaeger 2004).

clitic resumed Topic wh-	D-linked wh-	non-D-linked wh-						
(*na*) *koj/koja/koe/ koi* (N)	(*na*) *koj/koja/koe/ koi* (N)	*kogo*	*na kogo*	*koga*	*kâde*	*kakvo*$_{Subj}$ *kolko*$_{Subj}$ N	*kakvo*$_{Obj}$ (*na*) *kolko*$_{Obj}$ N	*kak*
kogo	(*kogo*)							
na kogo	(*na kogo*)							
*?kakvo	*kakvo* (marked)							
	kâde/koga (marked)							

Table 4.

VII. Concluding remarks.

The deeper question of what determines the relative order of the various wh-phrases seen above is beyond the scope of this article. We can only hint here at a possible way of approaching it that looks to us promising.

Various clues seem to suggest that such ordering reflects the order of wh-phrases prior to wh-movement (cf. also Bošković 1997, 1998, 1999).

Consider non-D-linked wh-phrases. The order of the adjuncts (*koga > kâde > kak*) seems to conform to the UG hierarchy of Merge of these adjuncts, according to which Temporal adjuncts are higher than Locative adjuncts, which are in turn higher than Manner adjuncts (Boisson 1981, Nilsen 2000, Cinque 2002, Schweikert 2004).[15] This appears supported by the fact that in German the corresponding existentially interpreted wh-phrases are ordered within IP in the same way, with Temporal phrases obligatorily preceding (i.e., higher than) Locative phrases:

(49) Hans sollte **wann wo/*wo wann** darüber vortragen   (Frey 2000, 113)
    Hans should sometimes somewhere about-that talk

Likewise, the surface order of Bulgarian [+human] wh-phrases (*koj, kogo*, and *na kogo*) with respect to the temporal and locative wh-adjuncts (*koga* and *kâde*), and to wh-phrases underspecified (or negatively specified) for the feature [human] (*kakvo* and *kolko/kakâv* N) (cf. Table 4) appears to reflect their relative order prior to wh-movement. This is once again suggested by the relative order in IP of the corresponding German existentially interpreted wh-phrases. As (50)-(53) show, [-human] subject *was*[16] has to follow the temporal and locative adjuncts *wann* and *wo*, while [+human] *wer* has to precede the adjuncts:[17]

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[15] As there is reason to assume that they do not move to higher IP-internal licensing positions, their position prior to wh-movement presumably coincides with their Merge position.

[16] The same appears true of object *was*.

[17] This suggests that arguments move from their Merge position to different "spaces" depending on their specification for the feature [human] (cf. the Animacy Hierarchy of the typological tradition). Concerning the relative ordering of elements which bear the same specification for the feature [human], if subjects are merged higher than direct and indirect objects, the pre-wh-movement position of [+human] subject *koj* 'who' will be higher (more to the left) than that of [+human] *kogo* 'whom' and *na kogo* 'to whom' (if not higher, given the discussion following (39)). As to the relative order of *kogo* and *na kogo*, we must assume that direct objects move to a pre-wh-movement position higher than that of indirect objects, since the Merge position of indirect objects is presumably higher than that of direct objects.

(50) Ich weiss nicht ob dort **wann was /*was wann** geschehen ist   (Josef Bayer p.c.)
    I don't know if there sometime something happened has
(51) Ich glaube dass **wo was/*was wo** geschehen ist   (Josef Bayer p.c.)
    I believe that somewhere something happened has
(52) Ich weiss nicht ob hier **wer wann**/*wann wer** geschlafen hat   (Josef Bayer p.c.)
    I don't know if here someone sometime slept has
(53) Weil **wer wo**/*wo wer** das Buch verloren hat...   (Frey 2000, 132)
    Because someone somewhere the book lost has...

It seems to us that this identity of ordering at the IP level in one language and at the CP level in the other can hardly be accidental.[18]

If the order of (non-D-linked) wh-phrases simply reflects their order prior to wh-movement, some principle will have to ensure that this order is preserved under wh-movement. While there have been a number of proposals to capture this (selective) effect (cf. Richards 1997/2001, Müller 2002, among others) we think that it can be derived in an interesting way by slightly modifying, and extending to A-bar chains, a principle originally proposed in Chomsky (2000, section 6; 2001, (17)) for A-chains. We will phrase such principle in terms of Rizzi's (2001) notion of Relativized Minimality, which is formulated as a condition on chain links ((54)), itself based on the Minimality notion in (55):

(54) $(A_1, \ldots, A_n)$ is a chain iff, for $1 \leq i < n$
    (i) $A_i = A_{i+1}$
    (ii) A_i c-commands A_{i+1}
    (iii) A_{i+1} is in a Minimal Configuration with A_i

In other words "each chain link involves identity (under the copy theory of traces), c-command and Minimality" (Rizzi 2001, 91)

(55) Y is in a Minimal Configuration with X iff
    there is no Z such that
    (i) Z is of the same structural type as X, and
    (ii) Z intervenes between X and Y

In the spirit of Rizzi (2001), we take Z to count as an intervener between a trace Y and a target X if Z c-commands Y without c-commanding X, and if it is specified with the same feature as the target (quantificational; modifier (non-quantificational); etc). Cf. the ill-formedness of (56)a-b vs. the well-formedness of (57)a-b:[19]

(56)a.   *Combien a-t-il beaucoup consulté de livres?
      'How many has he a lot consulted of books?'
     *_____   a-t-il **beaucoup** consulté **combien** de livres
        [+quant]   [+quant]

_____

[18] This identity, however, is concealed in many circumstances by the application of additional (focus-related) movements and becomes visible only when such movements are blocked (as happens with wh-phrases interpreted existentially in languages like German, or with interrogative wh-phrases in languages like Bulgarian).
[19] Note that (56)a does not become better if the closest quantifier is attracted (*_Beaucoup a-t-il consulté combien de livres_? 'A lot has he consulted how many of books?'). This implies that, unlike Relativized Minimality, Attract Closest cannot relate the violation in (56)a-b to standard Superiority violations like *_What did who buy?_ or *_Who did you persuade who to invite_?, even though the two cases seem to involve similar intervention effects (cf. Rizzi 1990, 2001).

b. *Rapidamente, i tecnici hanno probabilmente risolto il problema
'Rapidly, the technicians have probably solved the problem'

*_____, i tecnici hanno **probabilmente** risolto **rapidamente** il problema
[+modifier]   [+modifier]

(57)a. Combien a-t-il attentivement consulté de livres?
'How many has he carefully consulted of books?'

_____ a-t-il **attentivement** consulté **combien** de livres
[+quant]   [+modifier]

b. RAPIDAMENTE, i tecnici hanno probabilmente risolto il problema (non lentamente)
'Rapidly (focus), the technicians have probably solved the problem (not slowly)'

_____, i tecnici hanno **probabilmente** risolto **RAPIDAMENTE** il problema...
[+Focus]   [+modifier]

Within a system in which Superiority is subsumed under Relativized Minimality, the preservation of the pre-wh-movement order of the wh-phrases in the case of multiple movements can be ensured through the requirement in (58), which is a modification, as noted, of one of Chomsky's principles:[20]

(58) Only a whole chain, not just a link of a chain, counts as an 'intervener'.

In other words, no (trivial or non trivial) chain can intervene between the trace and the target, if the intervening chain is specified with the same feature as the target.
With (58), contrasts like those in (25)a-b above can now be seen to follow from Relativized Minimality (assuming *kakvo* to move to a Case-related position higher than *kak* prior to wh-movement – cf. Bošković 1997, 239f). The relevant derivations, and the resulting representations are given in (59)a-b. (59)a represents the only possible order of the two wh-movements which respects both Relativized Minimality and the Extension Condition. (59)b, on the other hand, violates Relativized Minimality whatever the order of the two wh-movements is (and the Extension Condition in one of the two possible derivations).[21]

(59)a [CP kakvo [CP kak [IP šte napraviš   t   t
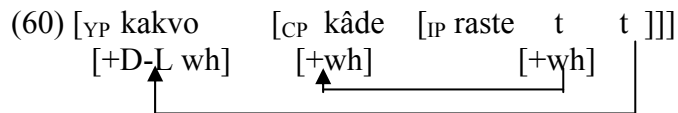[+wh]   [+wh]   [+wh]
                                ①
②

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[20] Chomsky's condition reads "Only the head of an A-chain (equivalently, the whole chain) blocks matching under the Minimal Link Condition" (Chomsky 2001, (17)). Rizzi reaches a similar conclusion in unpublished work refining his (1990, 2001) notion of Relativized Minimality.

[21] Note that under this account of Superiority, it is crucial that Relativized Minimality applies at the end of the derivation, or on the representation. See Rizzi (2001, especially fn.6) for arguments to this effect. In (59) we abstracted away from possible earlier movements leading to the pre-wh-movement configuration.

b *[_CP kak [_CP kakvo [_IP šte napraviš   t   t
[+wh]   [+wh]   [+wh]
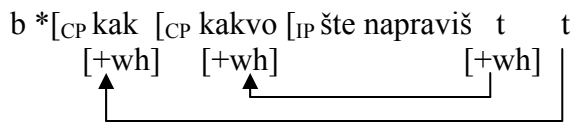
In (59)a there is only a *link* of a chain (not an entire chain) intervening between the trace of *kak* and the target of *kak,* and similarly only a link of a chain between the trace of *kakvo* and the target of *kakvo*. Not so, in (59)b, where the entire (non trivial) chain *kakvo* intervenes between the trace of *kak* and its target. (58) has in fact the quite general consequence of forcing a crossing (rather than a nesting) derivation of wh-phrases.

If D-linked wh-phrases have special features matching corresponding features in their target (say, +D-L wh – but see fn.22), it is understandable why they can reverse the order holding strictly within the "space" of non-D-linked wh-phrases. In the slightly more marked, yet acceptable, (7)a above, even if the whole (non trivial) chain of *kâde* intervenes between the trace of *kakvo* and its target, the feature of the intervener is distinct from that of the target, so that no violation of Relativized Minimality is triggered:[22]

(60) [_YP kakvo   [_CP kâde [_IP raste   t   t]]]
[+D-L wh]   [+wh]   [+wh]

A comparable case is provided by the apparent violation of Superiority in e.g. (44)a, where the target is specified for the feature [Cl-D-L wh] while the intervening chain bears no such feature.

To summarize, the facts discussed here seem to us to provide evidence for two conclusions: 1) that the order of wh-phrases in Bulgarian multiple wh-fronting reflects, up to the finest degree, their pre-wh-movement order, and 2) that all cases which seem to go against preservation of order (leading to seeming violations of Superiority) involve selective movements triggered by a feature that is not present in any of the intervening elements. More tentatively, we also proposed to capture Superiority effects under a version of Rizzi's Relativized Minimality which incorporates Chomsky's insight that links of a chain do not count as interveners.

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[22] If D-linking is related to Specificity, given that specific indefinites are higher than existentially interpreted ones (cf. Diesing 1992), it could be that in (60) *kakvo* has moved higher than *kâde* prior to wh-movement (which would impose distinctness of features at the IP, rather than at the CP level).

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