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):

whom where were-you seen ‘Who have you seen where?

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 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?’

whom what is stricken ‘What struck whom?’

*We wish to thank Adriana Belletti, Željko Bošković, Richard Kayne, Luigi Rizzi, and Steven Franks for their comments on a previous version of this work.
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

(9)a. Koj kogo kak e tselunal?
   who whom how is kissed ‘Who kissed whom how?’
b. Koj kak kogo e tselunal?   (cf. (2)b)

(10)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 whom you will meet tomorrow’

The contrast between (v) and (19)b 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’

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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 na čin 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 pohar čil?
   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?
(9)a. Kâde kak si se dârţal?
   where how are-you behaved ‘where did you behave how?’
   b. *Kak kâde si se dârţal.
      how where are-you behaved
(10)a Koga kak si se dârţal?
   when how are-you behaved ‘when did you behave how?’
   b. *Kak koga si se dârţal?
      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’:

(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 moţeš da pomogneš?
   to how many people how can-you to help
   ‘How many people can you help how?’
   b. *Kak na kolko xora moţeš 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 bolniti ‘to how many hospitals’, etc.).

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 postrešneš?
   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. Kogo/kâde kakvo kupuvaš?
   whom/where what buy-you ‘When are you buying what?’
   b.?Kakvo koga/kâde kupuvaš?
(24)a. Koga/kâde kolko (pari) si poxarčil?
   whom/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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4Kakâv/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.).

5In 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 *kollo (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) *kollo 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:

<table>
<thead>
<tr>
<th>kogo</th>
<th>na kogo</th>
<th>koga</th>
<th>kâde</th>
<th>(na) kolko N</th>
<th>kak</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘whom’</td>
<td>‘to whom’</td>
<td>‘when’</td>
<td>‘where’</td>
<td>‘to how many N’</td>
<td>‘how’</td>
</tr>
<tr>
<td>kakvo</td>
<td>‘what’</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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?

⁶According 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

<table>
<thead>
<tr>
<th>[+human]</th>
<th>[-human] or underspecified for [human]</th>
</tr>
</thead>
<tbody>
<tr>
<td>subject</td>
<td>(indirect/direct) object</td>
</tr>
<tr>
<td>koj</td>
<td>kogo</td>
</tr>
<tr>
<td>na kogo</td>
<td>koga</td>
</tr>
<tr>
<td>kâde</td>
<td>kakvo/kolko N</td>
</tr>
<tr>
<td>kak</td>
<td>(na) kolko N</td>
</tr>
</tbody>
</table>

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’

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*), which obligatorily precedes the wh-adjuncts (and, more generally, all non-D-linked wh-phrases):

(35)a. *Koe (spisanje) kâde si složil?
   ‘Which journal where are you put?’
   b. *Kâde koe (spisanje) si složil?
   ‘Where which journal are you put?’

(36)a. *Koe kâde otiva?
   ‘Which where goes?’
   b. *Kâde koe otiva?
   ‘Where which goes?’

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), 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. *Na kogo za Boga koi kartini pak iskaš da podarjavaš?
   ‘Which paintings to whom for God’s sake want-you again to donate-you’
   b. *Kakvi kartini na kogo za Boga pak šte davaš?
   ‘What paintings will you again be giving to whom?’

(38) a. Na kogo za Boga kakvi kartini pak šte davaš?
   ‘To whom for God’s sake what paintings again will give-you’
   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 potársja 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/črne) ‘which (woman/book)’ – feminine, singular
   *koe* (momče/spisanje) ‘which (boy/journal)’ – neuter, singular
   *koj* (studenti/kiigispisanja) ‘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*. 
The 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

<table>
<thead>
<tr>
<th>D-linked wh.</th>
<th>Non-D-linked wh-phrases</th>
</tr>
</thead>
<tbody>
<tr>
<td>kogo</td>
<td>na kogo</td>
</tr>
<tr>
<td>kogo</td>
<td>na</td>
</tr>
</tbody>
</table>

Table 3.

VI. The order of clitic resumed and non-clitic resumed wh-phrases12

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 do you dedicate 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, spored tebe, kāde *(ja) e risuval tozi xuždonik?
    which painting, according to you, where is painted this artist
    'According to you, which painting did this artist paint where?'
    b. Koja kniga, spored tebe, 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?'

10Things are actually more complex in that (39a) 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 (39a) 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
    film-the will watch M. 'Maria will watch the film'
    b. *?Ivan šte gleda Maria
    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 koi prijatel, spored tebe, 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. Vpročem, koja kartina, spored tebe, koi *(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. Vpročem, koja kartina, spored tebe, koi 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 D-linked wh- non-D-linked wh- [ZP non-D-linked wh- [IP clXP]..cl...]
Within a finer-grained CP structure (cf. Rizzi 1997), XP can be identified with the CLLD Topic position (TopP)\(^\text{13}\) (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.\(^\text{14}\)

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 (47)b but not in (47)a:

(47) a. *Na koj studenti mu e dal pari bašta mu*? cf. *Na Ivan mu e dal pari bašta mu*
to which student is given money father his
to Ivan is given money father his

b. *Na koj studenti e dal pari bašta mu*\(^\text{13}\)
to which student is given money father his

We therefore conclude that *na koj student* occupies an operator position in (47)b but not in (47)a:

Interaction with quantifiers

Another distinction between the two types of positions comes from their interaction with quantifiers (Roumyana Panicheva, 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 je pročel vseki?* wide and narrow scope
‘Which book did everyone read?’

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

<table>
<thead>
<tr>
<th>clitic resumed</th>
<th>D-linked wh-</th>
<th>non-D-linked wh-</th>
</tr>
</thead>
<tbody>
<tr>
<td>(na) koj/koja/koe/ koi (N)</td>
<td>(na) koj/koja/koe/ koi (N)</td>
<td>kogo na kogo koga kâde kakvo&lt;sub&gt;Subj&lt;/sub&gt; kolko&lt;sub&gt;Subj&lt;/sub&gt; N kakvo&lt;sub&gt;Obj&lt;/sub&gt; (na) kolko&lt;sub&gt;Obj&lt;/sub&gt; N kak</td>
</tr>
<tr>
<td>kogo</td>
<td>(kogo)</td>
<td>(na kogo)</td>
</tr>
<tr>
<td>*na kogo</td>
<td>kakvo (marked)</td>
<td></td>
</tr>
<tr>
<td>*?kakvo</td>
<td>kâde/koga (marked)</td>
<td></td>
</tr>
</tbody>
</table>

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). 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* has to follow the temporal and locative adjuncts *wann* and *wo*, while [+human] *wer* has to precede the adjuncts:

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.
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.\footnote{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).}

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 chain links ((54)), itself based on the Minimality notion in (55):

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

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

\begin{equation}
Y \text{ is in a Minimal Configuration with } X \text{ iff there is no } Z \text{ such that} \\
(i) \quad Z \text{ is of the same structural type as } X, \text{ and} \\
(ii) \quad Z \text{ intervenes between } X \text{ and } Y
\end{equation}

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:\footnote{Note that (56)a does not become better if the closest quantifier is attracted (*\textit{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 *\textit{What did who buy?} or *\textit{Who did you persuade who to invite?}, even though the two cases seem to involve similar intervention effects (cf. Rizzi 1990, 2001).}

(56)a. \*Combien a-t-il beaucoup consulté de livres?
\*‘How many has he a lot consulted of books?’
\*\begin{tabular}{c}
\begin{array}{c}
\hline
[+quant] \\
\hline
\end{array}
\end{tabular} \quad \begin{array}{c}
\begin{array}{c}
\hline
\textit{a-t-il} \\
\textit{beaucoup} \\
\textit{consulté} \\
\textit{combien} \\
\textit{de livres}
\end{array}
\end{array}
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 [+wh] [+wh] [+wh] [+wh] [+wh]]]

①

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.
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  ]]]

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.

References


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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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