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Anche se i due autori hanno contribuito pariteticamente alla costruzione della ricerca e alla redazione del testo, il mio contributo specifico riguarda le sezioni I-VI.

Venezia, 15/07/2017

In fede [Signature]
GERHILD ZYBATOW/LUKA SZUCSICH
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(EDS.)

FORMAL DESCRIPTION
OF SLAVIC LANGUAGES

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On the Order of wh-Phrases in Bulgarian Multiple wh-Fronting*

1. Introduction

This paper is 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 kačvo 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 kac 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 (6b), where a wh-direct object precedes the wh-subject and (7b), where a wh-adjunct precedes the wh-subject):

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

      whom where were-you seen 'Where have you seen who?'

(4) a. ?Kakvo kade ste složili?
   where what will put-you 'What will you put where?'

   b. Kako kakvo ste složili?
      where what will put-you 'Where will you put what?'

(5) a. ?Kakvo na kogo mu xaresva?
   what to whom to-him appeals 'What appeals to whom?'

   b. Na kogo kakvo mu xaresva?
      to whom what to-him appeals 'What appeals to whom?'

* We thank Željko Bošković, Steven Franks, and Luigi Rizzi for their comments on an earlier draft of this paper, as well as the audiences of FBSL-S and the Geneva workshop on (Multiple) Wh-movement: structures and derivations for their questions and valuable suggestions.
On the Order of wh-Phrases in Bulgarian Multiple wh-Fronting

(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?’

(7) a. ? Kakvo kade raste? (Billings and Rudin 1996, 42, and fn. 10)
    what where grows ‘What grows where?’

   b. Kade 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 7.).¹

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; Peartly 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) and (ii) 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 tselunat?
    who whom how is kissed ‘Who kissed whom how?’

   b. Koj kak kogo e tselunat? (cf. 21b)

(ii) a. Koj kogo po kakliv nacin e tselunat?
    who whom in what way is kissed ‘Who kissed whom in what way?’

   b. * Koj po kakliv nacin kogo e tselunat?
    who in what way whom is kissed

(iii) a. Koj kade kolko e poveritel?
    who where how much is spent ‘Who spent how much where?’

   b. * Koj kolko kade e poveritel?
    who how much where is spent

(iv) a. Na kogo koga kak te pomogne?
    to whom when how will help-you ‘To whom will you help when how?’

   b. * Na kogo kak koga te pomogne?
    to whom how when will help-you

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 (19b) in the text below is quite marginal as a matrix question, it improves considerably as an embedded question:

(v) Iskam da mi kaže koga kogo te posredat utr.  
    want-I da me tell-you whom whom will meet-you tomorrow
    lit. ‘I want you to tell me whom whom you will be meeting tomorrow.’
Our first piece of evidence for this conclusion comes from the relative order of wh-adjuncts.

2. 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 kade ‘where’, and kade ‘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 > kade > kak.

(8) a. Koga kade šte xodis tova ljato?
    when where will go-you this summer
    "When will you go where, this summer?"

    b. *Kade koga šte xodis tova ljato?
       where when will go-you this summer

(9) a. Kade kak si se dåržal?
    where how are-you refl.cl behaved
    "Where did you behave how?"

    b. *Kak kade si se dåržal.
       how where are-you refl.cl behaved

(10) a. Koga kak si se dåržal?
    when how are-you refl.cl behaved
    "When did you behave how?"

    b. *Kak koga si se dåržal?
       how when are-you refl.cl behaved

3. The order of wh-objects with respect to 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 kade ‘where’, but precede kak ‘how’?

---

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 da examine-1
    "TOMORROW, whom should I examine?"

    b. Nikoj ne mi kaza UTRE kogo da izpitam.
       nobody not me told tomorrow (focus) whom da examine-1
       "Nobody told me TOMORROW whom I should examine."

2 We come back later to the (quite) marginal, rather than totally ungrammatical, status of (12b)/(13b).
(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 tozi urok?  
   how to whom will teach-you this lesson

(12) a. Na kogo káde si daval podaríci?  
   to whom where are-you given presents  
   "To whom did you give presents where?"

b. ??Káde na kogo si daval podaríci?  
   where to whom are-you given presents

(13) a. Na kogo koga šte se obadí?  
   to whom when will call-you  
   "Who will you call when?"

b. ??Koga na kogo šte se obadí?  
   when to whom will call-you

(14) a. Koga / káde na kolko xora si pomagaš?  
   when / where to how many people are-you helped  
   "How many people did you help when/where?"

b. *Na kolko xora koga / káde si pomagaš?  
   to how many people when/where are-you helped

(15) a. Na kolko xora kak možeš da pomognéš?  
   to how many people how can-you Mod.prt help-you  
   "How many people can you help how?"

b. *Kak na kolko xora možeš da pomognéš?  
   how to how many people can-you Mod.prt help-you

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 > káde > na kolko N > kak  
   'to whom'  'when'  'where'  'to how many'  'how'

We assume 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 bolnici 'to how many hospitals', etc.).

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

---

3 The relevance of the feature [human], which was first noted in Billings and Radin (1996), will be shown below to play a role also in the distribution of direct wh-objects, and subjects.

4 The judgments reported in this article reflect the intuitions of ten native speakers of Bulgarian, in addition to those of the first author.
(17) a. Kogo na kogo šte predstavitiš?
whom to whom will introduce-you  ‘Whom will you introduce to whom?’

        b. *Na kogo kogo šte predstavitiš?
to whom whom will introduce-you

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 (18b) and (19b):

(18) a. Kogo kärde šte nastanitiš?
whom where will accommodate-you  ‘Whom will you accommodate where?’

        b. ?Kärde kogo šte nastanitiš?
where whom will accommodate-you

(19) a. Kogo kopa šte posrešatiš?
whom when will meet-you  ‘Whom will you be meeting when?’

        b. ??Koga kogo šte posrešatiš?
when whom will meet-you

(20) a. Kogo kak šte posrešeniš?
whom how will meet-you  ‘Whom will you meet how?’

        b. *Kak kogo šte posrešeniš?
how whom will meet-you

(21) a. Kogo na kolko studenti šte predstavitiš?
whom to how many students will introduce-you

‘Whom will you introduce to how many students?’

        b. *Na kolko studenti kogo šte predstavitiš?
to how many students whom will introduce-you

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

(22) kogo > na kogo > koga > kärde > 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: (23a) and (25a), alongside (4b), feature the [-human] wh-object kakvo ‘what’ 5; (24a) 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 kärde and koga, and precede kak. 6

5 Kakvo / kakvo / kakvo / kakvo ‘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. kakvo student ‘what student’, kakvo stol ‘what chair’, etc.).

6 In fact, kak must follow all wh-phrases (cf. (2), (9a), (10a), (11a), and (15a) above), though direct object kolko (N) phrases for some (semantic?) reason do not easily combine with kak, in any order.
(23) a. Koga / kade kakvo kupuvaš?  
    when/where what buy-you  
    ‘When are you buying what?’

    b. *(?)Kakvo koga / kade kupuvaš?  
    what when/where buy-you

(24) a. Koga / kade kolko (pari) si poxareli?  
    when/where how much (money) are-you spent  
    ‘How much (money) did you spend when/where?’

    b. *Kolko (pari) koga / kade si poxareli?  
    how much (money) when/where are-you spent

(25) a. Kakvo kak ste napravili?  
    what how will do-you  
    ‘What will you do how?’

    b. *Kak kakvo ste napravili?  
    how what will do-you

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 Bosković 1997):

(26) a. Kogo kakvo e pital Ivan  
    whom what is asked Ivan  
    ‘Who did Ivan ask what?’

    b. *Kakvo kogo e pital Ivan  
    what whom is asked Ivan

(27) Na kogo kakvo e pokazal Ivan?  
    to whom what is shown Ivan  
    ‘What has Ivan shown to whom?’

(28) a. Na kogo kolko pari ste dades?  
    to whom how much money will give-you  
    ‘Whom will you give how much money?’

    b. *Kolko pari na kogo ste dades?  
    how much money to whom will give-you

Summing up what we have seen 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 kogo ‘when’ and kade ‘where’ move to.

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. Grenendorf 2001, fn.19) while others seem to fully exclude them (cf. Radin 1985, 119).

(i) *(?)Kakvo na kogo e pokazal Ivan  
    what to whom is shown Ivan  
    ‘What did Ivan show to whom’
2. (Non-D-linked) wh-objects which are either negatively specified or underspecified for the feature [human] (namely, wh-phrases like kakvo 'what' and (ne) 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:

<table>
<thead>
<tr>
<th>kogo</th>
<th>na kogo</th>
<th>kogo</th>
<th>kâde</th>
<th>(ne) kolko N</th>
<th>kakvo</th>
</tr>
</thead>
<tbody>
<tr>
<td>'whom'</td>
<td>'to whom'</td>
<td>'whom'</td>
<td>'where'</td>
<td>'to how many N'</td>
<td>'what'</td>
</tr>
</tbody>
</table>

Table 1.

4. The order of wh-subjects with respect to 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] kog '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 sleep 'Who will sleep where?'

     b. *Kâde kogj šte spi?
        where who will sleep

(30) a. Koj koga pristiga?
     who when arrives 'Who will arrive when?'

     b. *Koga kogj pristiga?
        when who arrives

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 you-acc makes happy 'What makes you happy when?'

     b. ??Kakvo koga te pravi štastliv?
        what when you-acc makes happy

(32) a. Kâde kakvo stava sega po sveta?
     where what happens now in world-the
     'What is happening where around the world now?'

     b. *Kakvo kâde stava sega po sveta?
        what where happens now in world-the

(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?
        how much where / when refl.cl. invests in private-the sector
These data are summarized in Table 2:

<table>
<thead>
<tr>
<th>[human]</th>
<th>[-human] or underspecified for [human]</th>
</tr>
</thead>
<tbody>
<tr>
<td>koja</td>
<td>kaka/koja N or (non) koja N</td>
</tr>
<tr>
<td>koja</td>
<td>kaka/koja N</td>
</tr>
<tr>
<td>koja</td>
<td>kaka/koja N</td>
</tr>
<tr>
<td>koja</td>
<td>kaka/koja 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 (marginal) appear to the left of the
following wh-phrases: koja (6a), koja (6b), kaka (6a), (7a), (23b), and (23b)).
Similarly, for some speakers, kac and koja can precede koja (cf. 18b), (19b), Bošković
1997, fn. 7, and Billings and Rudin 1996, (42), as well as koja (cf. 12b) and (13b)).
Such possibilities are thus in apparent violation of the orders in Table 2.

We assume that the problem posed by these marked orders of kakvo and kac/koja can be
made sense of if they are taken to access (more markedly) a higher position, the one reserved
for D-linked phrases (which will be discussed in the next section).

One first piece of evidence comes from the contrast between the impossible (32b), which
contains a non easily D-linkable kakvo, and (4a) / (7a) above (repeated as (34a-b)), which
more readily allow for a D-linked interpretation of kakvo.

(34) a.  =  (4a) ?Kakvo kacate složiti?
          what where will put-you  'What will you put where?'

b.  =  (7a) ?Kakvo kacate neste?
          what where grows  'What grows where'

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

8 Within the same slot wh-subjects appear to precede wh-objects. See, e.g., (la-b), exemplifying the case of
wh-phrases underspecified for the feature [human]:

(i) a.  Kakvo grupi xora po kolko pari xarčat na mesets
          what groups people each how much money spend-they in month
          'What groups of people spend monthly how much money'

b.  *Po kolko pari kakvi grupi xora xarčat na mesets
          each how much money what groups people spend-they in month

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 koje object, regardless of order.

9 D-linked wh-phrases can show up either as full wh-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/stud) *which (student/chair) - masculine, singular
    koja (days/kongo) *which (woman/book) - feminine, singular
    koja (months/episome) *which (boys/serial) - neuter, singular
    koj (students/knight/episomia) *which students/books/journals - m/f/a plural
(35) a. Koe (spisanie) kāde si složil?
    which journal where are-you put
   ‘Which [one] did you put where?’
  b. *Kāde koe (spisanie) si složil?
     where which journal are-you put

(36) a. Koe kāde otiva?
    which where goes
   ‘Which [one] goes where?’
  b. *Kāde koe otiva?
     where which goes

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

Phrases in which koi functions as a specifier, i.e. koi/kōja/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 (37a) vs. (38a), 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. Koi kartinī na kogo za Boga iskaš pak da
dodarjavaš?
   which paintings to whom for God’s sake want-you again
   donate-you
   lit. ‘Which paintings do you want again to donate to whom on earth?’
  b. *Na kogo za Boga koi kartinī iskaš pak da
dodarjavaš?
     to whom for God’s sake which paintings want-you again to
donate-you

(38) a. Na kogo za Boga kakvi kartinī pak še davaš?
   to whom for God’s sake what paintings again will give-you
   ‘What paintings will you again be giving to whom?’
  b. *Kakvi kartinī na kogo za Boga pak še
davaš?
     what paintings to whom for God’s sake again will give-you

The only exception to the order D-linked > non-D-linked seems to be the fronting of a D-linked wh-phrase over a koi-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 koi še izpita?
    which student who will examine
  b. Koja koi studentka še izpita?
    who which student will examine

10 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.
On the Order of wh-Phrases in Bulgarian Multiple wh-Fronting

The ungrammaticality of (39a) 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 to be supported by the similar case of the quantifier všichki/‘all’, which also requires a [+human] interpretation when it occurs without the head noun (Uter dne poslali všichki ‘Tomorrow I will look for all’—everyone’s*all books, etc.’). If so, 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 7. below.)

The results so far are summarized in Table 3.11

<table>
<thead>
<tr>
<th>D-linked wh-12</th>
<th>Non-D-linked wh-phrases</th>
</tr>
</thead>
<tbody>
<tr>
<td>koj/koj/koj/koj (N)</td>
<td>kogo</td>
</tr>
<tr>
<td>(kogo) (na kogo)</td>
<td>kogo</td>
</tr>
<tr>
<td>(marked) kakov ot Zhou N</td>
<td>kide kogo</td>
</tr>
</tbody>
</table>

Table 3.

6. The order of clitic resumed and non-clitic resumed wh-phrases13

6.1. Clitic resumption with D-linked wh-phrases

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 kogo prijatel si 2 (ja) posvetel?
which painting to whom / to which friend are-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.

11Things are actually more complex in that (39a) seems to improve if the wh-phrase refers to a non-human entity.

(i) ?(?)koj elektrika koj e napisal
which book who is written
‘Who wrote which book?’

We assume that the contrast between (39a) and (i) is related to the contrast between (iiia) and (iib), which suggests that, in Bulgarian, phrases referring to non-human entities are (for some reason) easier to enter a null Operator Topic construction (cf. fn.13 below) than phrases referring to human individuals:

(ii) a. Filma b. *Ivan čita gleda Maria b. Maria čita gleda Maria
film-the will watch M. L.(obj) will watch M. (subj.)
‘Maria will watch the film’ ‘Maria will look after Ivan’

This in turn suggests that koj/koj in (i) is located in higher (operator topic) position, and the Superiority violation is only apparent.

12 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.

13 This section has gained considerably from the extensive discussions Iljana Krapova had with Željko Buškovski during her visit at the University of Connecticut in March, 2002 (sponsored by Research Support Scheme, Project 91/2000 between the University of Bucharest and the University of Plovdiv).
Moreover, as (42) shows, clitic resumption becomes obligatory 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) posvetili?
to whom which painting are-you it dedicated
   'Which painting did you dedicate to whom?'

b. Na kog prijatel koja kartina si mu ja posvetili
to which friend which painting are-you him it dedicated
   'Which friend did you dedicate which painting to?'

(42) a. Koja kartina, spored tebe, kôde *(ja) e risuval tozi xuždenik?
which painting, according to you, where it is painted this artist
   'According to you, which painting did this artist paint where?'

b. Koja kniga, spored tebe, na kog prijatel da *(mu) ja dam?
which book, according to you, to which friend Mod.prt (him) it give-I
   'According to you, which book should I give to which friend?'

c. Na kog prijatel, spored tebe, koja kniga da mu *(ja) dam?
to which friend, according to you, which book Mod.prt 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) [Cl-D-linked wh ] parenthetical [ YP non-Cl-D-linked wh ] YP non-D-linked wh [ YP...cl...]

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

(44) a. Koe (meroprijatie), spored tebe, koj trjubva da *(go) provežda?
which (initiative), according to you, who must Mod.prt it carry out-he
   'Which (initiative), according to you, who should carry out?'

b. *Kakvo (ot tezi nešta), spored tebe, koj trjubva da go
   svrdi?
what (from these things), according to you, who must Mod.prt it
   finish-he

c. *Kakvo (ot tezi nešta), spored tebe, na kogo da zanesa?
what (from these things), according to you, to whom Mod.prt 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 koje) which has been forced into a D-linked reading by including it into a partitive phrase. Nevertheless, the question is ungrammatical. As an indefinite quantifier, kakvo resists clitic resumption in true questions, 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 koje 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, koci *ja) e narisival?  
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, koci xudožnik *ja) e narisival?  
by-the-way which painting according-to-you which artist it is  
painted  
‘According to you, which painting did which artist paint?’


Within a finer-grained CP structure (cf. Rizzi 1997; Benincà and Polletto 2004), XP can be identified with the CLLD Topic position (TopP)14 (cf. also Krapova 2002b, Jaeger 2003,

14 Richards (1997, 2001, 95) and Grošmann (1998, 44, 2000, 278) propose that all D-linked wh-phrases target a (Wh-)Topic position (although neither author 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 topics and topics involving (null) operators, given in (i) and (ii), respectively (see Krapova 2002a, and Lambrova 2000, 2001, and Armudova 2004 who calls them ‘contrastive topics’):

(i) [Kafara] Ivan NA MARIA li ste *go) dade?  
switcase-the Ivan to Mary Interpret will it(CL) give  
‘The suitcase, is it to Mary that Ivan will give?’

(ii) [Kafara] koci ste prenese do garata?  
switcase-the who will carry to railway-station-the

In fact, such apparent superiority violations as in (iii), and in (iv) below where a D-linked wh-object precedes a D-linked wh-subject, may provide further evidence for distinguishing between the two types of topics:

(iii) Koja kartina koci xudožnik e narisival?  
which painting which artist it is painted  
‘Which painting did which artist paint?’

It can plausibly be argued that in (iii) koci xudožnik occupies Spec, YP (i.e. Spec of the D-linked wh-), while koja kartina targets the lower of the two Topic positions – the Operator/Contrastive Topic position situated below TopP. This will explain the lack of a resumptive clitic in (iii) vs. the additional availability of (iv), where the fronted wh-object is clitic resumed, as a function of targeting the higher Clitic Left Dislocation Topic:

(iv) Koja kartina koci xudožnik ja e narisival?  
which painting which artist it(CL) is painted
2004, Grohmann 2005); 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.\footnote{We take each “space” (non-D-linked, D-linked, Cif-D-linked) to involve a hierarchy of projections hosting the different wh-phrases, in the fixed order imposed by Superiority (cf. section 7. below).}

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 discussed in 6.2 below.

6.2. 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 (47a). On the other hand, WCO effects are present with exactly the same types of elements if the clitic is missing, cf. (47b). We therefore conclude that na koj student occupies an operator position in (47b) but not in (47a):

(47) a. Na koj student mu e daval pari bašta mu?
to which student him is given money father his
‘Which student did his father give money?’

cf. Na Ivan mu e dal pari bašta mu.
to Ivan him is given money father his
‘His father gave money to Ivan.’

b. Na koj student e daval pari bašta mu-

to which student is given money father his

cf. *Na Ivan e dal pari bašta mu.
to Ivan is given money father his

6.3. 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 velik/everybody. CI-D-linked phrases necessarily have wide scope (cf. (48b)):

(48) a. Koja kniga e pročel veški?

which book is read everybody
‘Which book did everyone read?’

b. Koja kniga ja e pročel veški?

which book it is read everybody

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).
7. 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, 1998b, 1999).

Consider non-D-linked wh-phrases. The order of the adjuncts (kogo > kâde > kâk) 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 2005). 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 (kogo and kâde), and to wh-phrases underspecified (or negatively specified) for the feature [human] (kâko and kolkos/kolov 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\textsuperscript{17} has to follow the temporal and locative adjuncts wann and wo, while [+human] wer has to precede the adjuncts:\textsuperscript{18}

(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 is

\textsuperscript{16} As there is reason to assume that they do not move to higher IP-internal licensing positions, their position prior to wh-movement presumable coincides with their Merge position.

\textsuperscript{17} The same appears true of object was.

\textsuperscript{18} 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 kog ‘who’ will be higher (more to the left) than that of [+human] kogo ‘whom’ and na kogo ‘to whom’ (i.e., 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.
(51) Ich glaube dass wo was / *was wo geschahen 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 *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. 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 2001, 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) (A₁, ..., Aₙ) is a chain iff, for 1 ≤ i ≤ n
(i) Aᵢ = Aᵢ₊₁
(ii) Aᵢ c-commands Aᵢ₊₁
(iii) Aᵢ₊₁ is in a Minimal Configuration with Aᵢ

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 (56a-b) vs. the well-formedness of (57a-b):

(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
[1quant] [1quant]

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

\[ [+\text{modifier}] \text{i tecnici hanno probabilmente risolto rapidamente il problema} \]

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

\[ [-\text{quant}] +[\text{modifier}] \text{a-t-il attentivement consulté combien de livres} \]

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

\[ [+\text{Focus}] +[\text{modifier}] \text{i tecnici hanno probabilmente risolto RAPIDAMENTE il problema...} \]

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.\(^1\)

(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 (25a-b) above can now be seen to follow from Relativized Minimality (assuming kakvo to move to a Case-related position higher than kaks prior to wh-movement - cf. Bošković 1997, 2391). The relevant derivations, and the resulting representations are given in (59a-b). (59b) represents the only possible order of the two wh-movements which respects both Relativized Minimality and the Extension Condition. (59b), 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).\(^2\)

(59) a. \[
\begin{array}{c}
[\text{CP kakvo [CP kaks [TP [t [t [t [t [t
\end{array}
\]

\[ [+\text{wh}] [+\text{wh}] [+\text{wh}] [+\text{wh}] \]

\[ \circ \]

b. \[
\begin{array}{c}
[\text{CP kakvo [CP kaks [TP [t [t [t [t
\end{array}
\]

\[ [+\text{wh}] [+\text{wh}] [+\text{wh}] [+\text{wh}] \]

\[ \circ \]

\(^1\) Chomsky's condition reads "Only the head of an A-chain (equivalently, the whole chain) blocks matching under the Minimal Link Condition" (Chomsky 2001, 177). Rizzi reaches a similar conclusion in unpublished work refining his (1990, 2001) notion of Relativized Minimality.

\(^2\) 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 abstract away from possible earlier movements leading to the pre-wh-movement configuration.
In (59a) 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 (59b), 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, (7a) above, even if the whole (non trivial) chain of kde intervenes between the trace of kakvo and its target, the feature of the intervenor is distinct from that of the target, so that no violation of Relativized Minimality is triggered: 23

(60) [w kakvo [CP kde [w raste t t]]] [+D-L. wh] [+wh] [+wh] [+wh]

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

Notice that in order to derive the apparent Superiority violations of (7b) (Kde kakvo raste? ‘Where what grows?’) and similar cases, one has to crucially assume that subject kakvo may fail to raise to the preverbal position and may receive Case in situ under Agree with the preverbal position in Spec,IP, much as it happens in normal cases of subject inversion (e.g. Tuk ne raste tretu lit. Here not grows grass ‘Grass does not grow here’). This possibility in turn appears to be relatable to the pro-drop nature of Bulgarian, which allows an expletive empty subject satisfying the EPP feature, along the lines of the original proposal of Rizzi (1982, chapter IV), which relates free subject inversion to the null subject property of the language.

To summarize, the facts discussed above 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 conduct 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 Minimalism which incorporates Chomsky’s insight that links of a chain do not count as interveners.

References


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23 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 kde prior to wh-movement (which would impose distinctness of features at the IP level, rather than at the CP level).


