

## Multiple Wh Relatives in Slavic\*

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In the nearly 20 years since Rudin 1988 a great deal of work has been devoted to multiple wh constructions in Slavic,<sup>1</sup> the vast majority of it concerning multiple questions. It has occasionally been mentioned that multiple wh fronting also occurs in certain types of relative clauses in at least some Slavic languages, but multiple wh relatives have received little attention.

The goal of this paper is to begin to rectify this oversight, mostly by raising questions and suggesting some avenues for further research on multiple wh relative clauses (MWRs). Among the very broad questions we might ask are: How are MWRs like or unlike multiple wh questions? How are they like or unlike other relative clauses? Are they free relatives or correlatives? Do headed MWRs exist? (No; presumably due to the ill-formed multiple-headed NP structure required.) What can MWRs tell us about the structure of (non-multiple) free relatives/correlatives? How do they fit into typologies of multiple wh fronting? Preliminary conclusions are that MWRs, like multiple questions, differ in wh landing sites from one language to another (and sometimes within one language); both multiple free relatives and multiple correlatives exist, and the existence of multiple free relatives favors a Comp Account approach to free relatives. I focus on Bulgarian data, in this paper, with some comparison to other Slavic languages, especially Polish, and a short excursus on Romanian at the end.

Before getting to the meat of the paper I briefly review what we know about multiple wh fronting, free relatives, and correlatives.

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<sup>1</sup>And more recently in non-Slavic languages too; see most of the articles in Boeckx & Grohmann 2003. This is an area where formal Slavists have really led the way for general linguistics.

## 1 Background

### 1.1 Multiple wh-fronting

Work on multiple wh-fronting questions has centered on the position of the wh phrases. Things are more complex than I thought at the time, but the core of my 1988 idea that languages differ in the landing sites of fronted multiple wh words has held up well. Some languages have true wh-movement of all wh's to SpecCP. These languages are the group I labeled "+MFS" (+Multiply Filled Specifier); represented by Bulgarian and Romanian. In other languages, including most of the Slavic languages other than Bulgarian, only one (or none) of the whs undergoes wh-movement to SpecCP; the others front for different reasons and to different positions, e.g. to Spec of a focus projection.

The different wh landing sites are reflected in a series of diagnostic differences among languages; I illustrate some of these in (1-6) with Bulgarian vs. Serbo-Croatian examples from Rudin 1988. (1-2) show differences in obligatoriness of fronting and long extraction. Bulgarian-type languages have obligatory fronting of all wh words and allow multiple extraction of wh-words into a higher clause, while in most other Slavic languages only one wh must front, and only one can front long distance; (3-4) show differences in superiority effects which result in strictly fixed word order within the wh word group in Bulgarian but not in Serbo-Croatian; (5-6) show differences in the constituent status of the wh-word string: in Bulgarian the wh-words form a constituent which cannot easily be split by parentheticals or other material (though there is some evidence the first wh has special status), while in Serbo-Croatian a normal position for clitics, adverbials, and parentheticals is between the first and second wh-words). Other differences between the two types of languages include the presence of wh-islands and differences in pair-list vs. single-pair interpretation of multiple questions.

- (1) a. **Koj kâde** misliš će e otišâl? (BG)  
who where you-think that has gone  
'Who do you think went where?'  
b. \* **Koj** misliš će e otišâl **kâde**?
- (2) a. **Ko** želite da vam **šta** kupi? (SC)  
who you-want to you what buy  
'Who do you want to buy you what?'  
b. \* **Ko šta** želite da vam kupi?

- (3) a. **Koj kogo** vižda? (BG)  
 who whom sees  
 ‘Who sees whom?’  
 b. \***Kogo koj** vižda?
- (4) a. **Ko koga** vidi? (SC)  
 who whom sees  
 ‘Who sees whom’  
 b. **Koga ko** vidi?
- (5)\*? **Koj** prâv **kogo** e udaril? (BG)  
 who first whom has hit  
 ‘Who hit whom first?’
- (6) **Ko** je prvi **koga** udario? (SC)  
 who has first whom hit  
 ‘Who hit whom first?’

This split into two types of languages has undergone considerable refinement since I first proposed it. To mention just a few highlights: Bošković 1997, Stepanov 1998, and others have proposed explanations of the facts based on strength and location of [+wh] and [+focus] features. Bošković has also given a more nuanced picture of the superiority facts, showing that Serbo-Croatian sometimes does exhibit superiority effects, namely under the same conditions in which French requires wh-movement. Similarly, Golden 1997 shows that Slovene, which otherwise seems to be a well-behaved -MFS language, takes on +MFS characteristics in long extraction constructions. Grebenyova 2005 points out restrictions on multiple wh-fronting, showing that in those languages which allow Left Branch Extraction, only one wh can be LBExtracted. She also shows that bare wh-words, unlike complex wh-phrases, can undergo partial fronting to a position below the subject in Russian and perhaps other languages.<sup>2</sup> Krapova & Cinque 2004, Billings & Rudin 1996, Jaeger 2004, and others have shown that the order of wh-phrases (in Bulgarian, where it is fixed) is quite complex, depending on D-linking, type of focus, topicalization, and humanness, as well as Superiority. Lambova 2003, among others, has pointed out that the ban on splitting the wh-cluster in Bulgarian is less than absolute, with some

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<sup>2</sup>But, I would like to point out, not in Bulgarian; as usual, Bulgarian is the odd language out.

interspeaker variation, but that splitting for those who allow it is possible only after the first wh, not between the second and third in a cluster of three wh-words. In addition it is now well known that the order of second and third wh's is free even in Bulgarian; superiority affects only the first wh-word. Works too numerous to mention have clarified details of multiple wh fronting in specific languages, the interaction of multiple wh fronting with sluicing, effects of argument vs. adjunct wh, and so on.

In short, multiple-wh studies have become a deep and rich field; the typology of multiple wh fronting turns out to be subtler and more complex the more we look at it. But the basic generalization still holds, that differences in multiple wh fronting are attributable to differences in the structural position of the fronted wh-phrases.

## 1.2 Free Relatives

Work on free relatives has also centered on the position of the wh element. Here there are two main possibilities, the Comp Hypothesis (first proposed in a generative framework by Groos and van Riemsdijk 1981) and the Head Hypothesis (introduced by Bresnan & Grimshaw 1978). Each of these in turn has at least two sub-cases: Under the Comp Account wh is in Comp or more recently in SpecCP, like wh in headed relatives; the head position of the dominating phrase is either null (7a) or missing altogether (the Bare CP hypothesis); (7b). Under the Head Account the wh is in the head position; either generated there (8a) or raised from within the clause (8b).

### (7) Comp Account

- a. null head:  $[_{DP} \emptyset [_{CP} wh [_{C'} [_{TP} \dots ]]]]$
- b. no head (bare CP):  $[_{CP} wh [_{C'} [_{TP} \dots ]]]]$

### (8) Head Account

- a. wh coindexed with pro in clause:  $[_{DP} wh_i [_{CP} [_{C'} [_{TP} \dots pro_i ]]]]$
- b. wh raised from within clause:  $[_{DP} wh_i [_{CP} [_{C'} [_{TP} \dots t_i \dots ]]]]$

Numerous arguments, both syntactic and semantic, have been adduced for various versions of these two free relative structures, the Comp Account being favored by any evidence of parallelism to wh questions or to the wh-phrase in headed relatives; the head account by evidence of parallelism with the head of headed relative clauses or lack of parallelism with wh questions. Arguments have included the inventory of wh-words and phrases used in free relatives, extraposition phenomena, superiority

effects, reconstruction effects, and matching effects, among others. Both accounts are alive and well -- papers supporting both (and in Slavic!) were presented at LSA 2006; Martina Gračanin-Yukseš's paper argued for the "Comp Account" for Croatian, while Barbara Citko's argued for the Head Account based primarily on Polish data. Izvorski 2000 argues for a bare CP structure for certain free relatives in several languages. It is not unlikely that free relatives in different languages or different constructions may have different structures.

It is also undoubtedly true that the arguments have been muddled by failure to clearly define "free relative", i.e. to distinguish among several constructions which are sometimes lumped together under the "free relative" label, including concessive conditional clauses and correlatives. Recent work by Izvorski 1996, 1997, 2000 and by Citko 2002, 2004, 2006 has begun teasing out the differences among different relative-like constructions in Slavic. For instance, Citko's 2006 arguments for the Head Account are limited to free relatives strictly speaking (that is, free relatives in argument or adjunct positions within CP). She shows that correlatives align with questions and against free relatives on a number of parameters, including the possibility of Left Branch Extraction. I'll adopt Citko's terminology and distinguish "Free Relative" from "Correlative" in the remainder of this paper. And thus the last area on which we need some background is correlatives.

### 1.3 Correlatives

A correlative is a relative clause which appears to the left of a full CP. Rather than functioning as an argument or adjunct within the clause, like standard free relatives, correlatives are external to the clause. There is good reason to believe they are bare CP in form.

(9) [ [CP wh ... ]<sub>i</sub> [CP ...proform<sub>i</sub> ... ] ]

Izvorski 1996 gives a number of tests for distinguishing between free relatives and correlatives. First, correlatives always have a coferential proform, usually a demonstrative, in the main clause; this proform is underlined in examples throughout this paper, starting with (10). (The proform could be null if nominative in most Slavic languages, but it can always be made non-null.) Second, for semantic reasons the correlative proform is incompatible with certain interpretations, including "exhaustive", "relevance", and focus readings; clauses with these

interpretations are thus impossible as correlatives, though they are perfectly normal as free relatives.

Bulgarian examples based on Izvorski's are given in (10-12). Exhaustiveness, the situation in which the relative clause covers all possibilities, is illustrated in (10): clauses with an exhaustiveness indicator like *dori* or *i da*, both meaning 'even,' cannot be correlative. Unlike (10a), which is correlative, the exhaustive examples (10b-c) are ungrammatical with a correlative demonstrative proform. These sentences are fine without the starred demonstrative, in which case the relative clause is a simple free relative, the subject of the matrix clause.

- (10) a. **Kojto** se uči, toj šte spoluči.  
 who refl studies he will succeed  
 'He who studies will succeed'
- b. Dori **kojto** se uči, (\*toj) njama da spoluči.  
 even who refl studies he will-not to succeed  
 'Even he who studies will not succeed'
- c. **Kojto** i da se uči, (\*toj) šte spoluči.  
 who and to refl study he will succeed  
 'Whoever studies will succeed.'

Relevance, meaning the relative clause gives conditions for the main clause to be relevant, is illustrated in (11). A free relative but not a correlative can be in a context where it must be interpreted as giving relevance conditions. In (11a), *kogato si gotov* specifies a time, and can be correlative, whereas in (11b) the same phrase specifies not a time, but the conditions under which it would be relevant to know that I'll be in my office; under this interpretation no correlative proform is possible.

- (11) a. **Kogato** si gotov, (togava) ela v kabineta.  
 when you-are ready then come to the-office  
 'When you're ready, come to the office.'
- b. **Kogato** si gotov, (\*togava) az šte sâm v kabineta.  
 when you-are ready then I will be inthe-office  
 'Whenever you're ready, I'll be in the office.'

The focus effect is illustrated in (12) A free relative but not a correlative can occur with the focusing particle *li*; (12b), with the focusing particle, is grammatical only as a free relative, without the correlative proform.

- (12) a. **Kakvoto** si obeštal, tova šte napraviš.  
 what you-have promised that will you-do  
 ‘You will do what you promised.’
- b. **Kakvoto** si obeštal li (\*tova) šte napraviš?  
 what you-have promised foc that willyou-do  
 ‘Are you going to do WHAT YOU PROMISED?’

Citko 2006 also discusses correlatives in Slavic, including multiple wh correlatives. The possibility of multiple wh is one of several features Polish correlatives share with wh questions, as opposed to free relatives (others include LBE possibilities, pied piping, and reconstruction effects). Citko’s examples of multiple correlatives include those in (13).

- (13) a. **Kto co** chce, ten to dostanie.  
 who what wants that this gets  
 ‘Everyone gets what they want.’
- b. **Komu co** Jan dal, to temu Maria zabierze.  
 to-whom what Jan gave, this that<sub>DAT</sub> Maria take-back  
 ‘Whatever Jan gave anyone, Maria took it back from them.’

## 2 Are all multiple wh relatives correlatives? Not in Bulgarian.

We are now ready to look in more depth at multiple wh relative clauses. On the basis of Citko’s Polish facts, we might expect that all multiple wh relatives are actually correlatives. This prediction is not borne out in Bulgarian, however. Bulgarian has both multiple wh free relatives and multiple wh correlatives. This is evident from their position relative to the main clause, their occurrence both with and without anaphoric demonstratives, their immunity to the semantic constraints on correlatives, and perhaps also from certain clitic placement facts.

### 2.1 Not left peripheral, no anaphoric demonstrative.

First, consider the wh clause’s relation to the main clause. Correlatives are distinguished by being in a left peripheral position to a matrix clause which contains an anaphoric demonstrative. Citko’s statement that Polish multiple-wh relatives all fit these criteria is supported by Williams 1986, who gives examples of multiple-wh relatives in Polish and makes a point of showing that they must be the leftmost clause; the multiple relative can neither follow the main clause (as in (14b-c)) nor occur within the

main clause (as in (14d-e)); similarly she states no other position is possible for the relative clause in (15).

- (14) a. **Kto z kim** przestaja takim się staje.  
 who with whom associates, this refl becomes  
 ‘One becomes like the person one associates with.’
- b. \*Takim się staje, **kto z kim** przestaje.  
 c. \*Staje się takim, **kto z kim** przestaje.  
 d. \*Ten się staje takim, **kto z kim** przestaje.  
 e. \*Ten, **kto z kim** przestaje, staje się takim.
- (15) **Kto pod kim** dołki kopie, ten sam w nie wpada.  
 who under whom holes digs this himself in them falls  
 ‘He who digs holes under his neighbor will fall into them himself’  
 (No other order possible)

Some multiple wh relatives in Bulgarian do fit the correlative pattern; several examples are given in (16):

- (16) a. **Na kojto kakvoto** e pisano, tova šte stane.  
 to who what is written that will happen  
 ‘Whatever is fated for each person, that will happen.’ (web)<sup>3</sup>
- b. **Kojto kâdeto** e sviknal, tam si živee.  
 who where is accustomed there refl lives  
 ‘Each person lives (best) where they have gotten used to.’
- c. **Kogo kakvoto** go boli, za nego prikazva.  
 whom what him hurts of it talks  
 ‘Everyone talks about whatever is hurting them.’

But many Bulgarian multiple wh relatives do not fit the correlative mold. Some non-left-peripheral examples are shown in (17).<sup>4</sup> In (17a-f) the multiple relative follows and appears to be the complement of the main clause verb. In (g) the clause is the complement of a deverbal adjective, while in (h) it is either a complement of a noun or more probably the

<sup>3</sup>The notation “web” on this and other examples indicates that they were found by googling wh word combinations. All examples have been re-checked with native speakers to ensure their acceptability.

<sup>4</sup>These are all attested textual examples, from published fiction, both older and recent (author’s name in parentheses), or from current web pages, and have been judged well-formed by Bulgarian speakers.



predicate of an elliptical copular sentence. Regardless of the exact syntactic position/function of the multiple wh clauses in (17), it is clear that the “left peripheral” requirement does not hold in Bulgarian.

- (17) a. Vzemajte **koj kakvoto** može.  
 take<sub>IMP</sub> who what can  
 ‘Everyone take whatever you can’ (Mantov)
- b. Da kazva **koj kakvoto** šte.  
 to say who what wants  
 ‘Let everyone say whatever they want.’ (Daskalov)
- c. Sâsedite bjaha si otmâkvali **komu kakvoto kamâče** potrabvalo.<sup>5</sup>  
 the-neighbors had refl carried-off to-whom which  
 little-stone was-necessary  
 ‘The neighbors had carried off whichever little stone each one needed’ (Daskalov)
- d. Praštajte **koj kolkoto** može - parite njama da  
 send who how-much can the-money will-not to  
 se zagubjat.  
 refl lose  
 ‘Everybody send as much as you can - the money won’t get lost.’ (web)
- e. Da organizirame abonament, da pomognem **koj s**  
 to organize<sub>1PL</sub> subscriptionto help<sub>1PL</sub> who with  
**kakvoto** može.  
 what can.  
 ‘Let’s organize a subscription, let’s all help with whatever we can.’ (web)
- f. Šte pobjagnat **koj nakâdeto** vidi.  
 will run-away who to-where sees  
 ‘They’ll all run off wherever they see/ They’ll run in all directions.’ (Daskalov)

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<sup>5</sup>The dative pronoun *komu* makes this 19th-century example sound somewhat archaic; in current usage it would be replaced with *na kogo* ‘to whom’ or in colloquial speech with *na koj* ‘to who’. One consultant suggested “*na kojto kakvoto kamâče*” as the most normal-sounding modern version.

- g. V antreto se bjaha sâbrali vsički slugi, vâorženi  
 in the-entry refl were gathered all servants armed  
**koj s kakvoto** mu padne.  
 who with what to-him fell  
 ‘In the entryway all the servants had gathered, each armed  
 with whatever came to hand. (web)
- h. Objad **koj kogato** e v sâstojanie da jade.  
 lunch who when is in condition to eat  
 ‘Lunch whenever anyone is in condition to eat.’  
 (Korudžiev - sign in a fictional hotel room)

In addition, note that none of these examples contains an anaphoric demonstrative in the matrix clause. In fact, they are incompatible with any such anaphoric element. To demonstrate this for just one of the examples, compare (17d) to the ungrammatical sentences in (18), the result of attempting to add anaphoric pronouns or demonstratives. No anaphoric element is possible with the clause in situ, or even, more surprisingly, when it is left-dislocated.

- (18) a.= (17d) Praštajte [**koj kolkoto** može].  
 ‘Everybody send as much as you can’
- b. \*Praštajte go [**koj kolkoto** može].  
 it
- c. \*Praštajte tova [**koj kolkoto** može].  
 that
- d. \*Praštajte tolkoz [**koj kolkoto** može].  
 that-much
- e. \* [**Koj kolkoto** može], praštajte go / go praštajte
- f. \* [**Koj kolkoto** može], praštajte tova
- g. \* [**Koj kolkoto** može], praštajte tolkoz

## 2.2 Semantic constraints do not hold

Furthermore, Bulgarian has multiple wh relatives with at least some of the interpretations which Izvorski 1996 argues cannot occur in correlatives; as noted above, these include exhaustive, relevance, and focused meanings. Multiple wh relatives which violate these semantic constraints must be non-correlative. Examples of multiple wh free relatives with the exhaustiveness marker *i da* are given in (19a-d); these are relatively common. I have not found text examples of the other two

types, but consultants found the focused example (21) normal and the relevance example in (20) marginally acceptable.

(19) exhaustive: (cf. (10))

- a. Vseki se otbivaše, **kojto kogato i da** mineše.  
 each refl drop-in who when and to pass  
 ‘They all dropped in, each one whenever he was passing by.’  
 (Penchev)
- b. **Kojto kogato i da** mineše se otbivaše. (=19a)
- c. **Kojto kakvoto i da** mu kaže, Ivan šte napusne  
 who what and to to-him say Ivan will quit  
 rabotata si.  
 the-job his  
 ‘No matter who says what to him, Ivan will quit his job.’  
 (Izvorski 2000)
- d. **Koj kakvoto i da** misli, az si pravja snimkite po  
 who what and to think I refl make pictures in  
 moj način.  
 my way  
 ‘No matter who thinks what, I take my pictures in my own way.’ (web)

(20) relevance: (cf. (11))

- ?? **Koj kogato** e gotov, az šte sâm v kabineta.  
 who when is ready I will be in the-office  
 ‘Whenever anybody is ready, I’ll be in the office.’

(21) focused: (cf. (12))

- Koj kakvoto** e obeštal li šte napravi?  
 who what has promised focus will do  
 ‘Will everyone do WHAT THEY PROMISED?’

### 2.3 Clitic placement

A final argument that not all Bulgarian multiple wh relatives are correlative may come from the position of verb-adjacent clitics in the main clause. As is well known, Bulgarian clausal clitics cannot be initial. Almost anything can serve as the pre-clitic host, including conjunctions, complementizers, and other unstressed words such as negative or future markers. However, certain “dislocated” Topic phrases, which are outside CP and separated by a pause, cannot so serve, and cannot be immediately

followed by clitics. The topic *pârvata statija* in (22b) is in a more peripheral position than that in (22a) (without going into any detail on exactly what either position might be); the pause or comma intonation represented by // forces clitic-verb inversion.

- (22) a. Pârvata statija *ja e* pročel veče.  
 the-first article it has read already  
 ‘The first article he’s already read.’  
 b. Pârvata statija // pročel *ja e* veče  
 ‘As for the first article, he’s already read it.’

Correlative clauses such as those in (16) are like the dislocated topic in (19b) in having comma intonation/pause, so we would expect them not to be able to serve as clitic hosts. Unfortunately this prediction is hard to test, since the main clause following a correlative must begin with the demonstrative; Izvorski 1996 argues that correlative demonstratives in fact undergo wh-movement. Compare (23b,c) to (16b), repeated here as (23a): the sentence is ungrammatical either with or without clitic/verb inversion if the demonstrative is not initial.

- (23) a. **Kojto kâdeto** e sviknal, tam si živee.  
 who where is accustomed there refl lives  
 ‘Each person lives (best) where they have gotten used to.’  
 b. \* **Kojto kâdeto** e sviknal, živee *si tam*  
 c. \* **Kojto kâdeto** e sviknal, *si* živee tam.

Nonetheless, it is striking that other multiple relatives, without the correlative pro-form, can serve as clause-initial clitic host. The multiple wh clause in (24), immediately followed by the clitics *si go e*, is arguably in a relatively close-in, CP-internal position rather than in the peripheral, clause-external, pause-separated position occupied by correlatives.

- (24) **Kojto kakvoto** e polučil, *si go e* zaslužil.  
 who what has received refl it has deserved  
 ‘Everyone deserved whatever they got. (web)

## 2.4 Conclusion and Speculations

Multiple wh relative clauses in Bulgarian clearly occur both as free relatives and as correlatives. This raises two issues: (a) why is this true in Bulgarian but not in Polish?, and (b) what is the structure of Bulgarian

multiple wh free relatives? (Do they support Comp or Head Account?) Herewith some preliminary speculations toward an answer.

Given that Polish has only the correlative variety, as claimed by Citko and implied by Williams, we have a split within the Slavic family. Once again, as with multiple wh questions, superficially similar-looking constructions turn out to have different structures in different languages; and once again Bulgarian and Polish are on opposite sides of the parameter. I have not been able to investigate other languages in any detail, but I strongly suspect that as usual Bulgarian (and probably Macedonian) will be the exception to the Slavic rule; i.e. that most languages in the family will be more similar to Polish. The reason for this prediction is the obvious hypothesis is that this split is yet another consequence of the “MFS” parameter, that is, Bulgarian is able to have multiple wh free relatives BECAUSE all fronted wh phrases in Bulgarian land in SpecCP. How and why this should follow needs further study.

Concerning the Comp Account vs. Head Account of Bulgarian multiple wh relatives, I argued in 1986 that the wh words cannot be heads, because of obvious semantic and syntactic problems with multiple-headed categories. Izvorski 2000 makes similar arguments for one group of correlatives, what she calls “free adjunct free relatives”.<sup>6</sup> She considers the fact that multiple whs are possible in this construction to be an argument for bare CP status (not DP), since “otherwise one would have to posit nominal structures with multiple heads.” (239) If this reasoning is correct, all multiple wh relatives would have to be bare CP, favoring the “Comp Analysis” by default since there would be no head, null or otherwise. This seems unsatisfactory, though, given that some multiple relatives appear in argument DP positions. I suggest that Bulgarian multiple wh free relatives are null-headed; i.e. they have the standard “Comp Account” structure in (7a), and that a null head, unlike a lexical one, is able to be construed with multiple wh phrases in a single SpecCP. For further discussion of heads of multiple free relatives, see section 4.<sup>7</sup>

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<sup>6</sup>These are adverbial relatives like the first clause of (i):

(i) Whatever John cooks, he will win the cooking contest.

<sup>7</sup>See Citko 2002 for an argument that Polish free relatives are wh-headed.

### 3 Superiority Effects

Turning to another topic, consider superiority effects in Slavic multiple wh relatives. Recall from (3-4) above that this is one of the classical diagnostics of wh-movement to Spec CP rather than wh-fronting by focus movement or adjunction to IP. Superiority is the requirement that, for economy reasons, given a choice of several wh words, the highest must be the one to undergo wh-movement (or must be the first to move in case of multiple movement).<sup>8</sup> Thus for instance a subject rather than an object wh-word moves in single-wh-fronting languages like English (as in (25)), and subject precedes object wh-word in multiple fronting languages which have multiple overt wh movement (again, see (3)).

(25) Who saw what? / \*What did who see?

Bošković 2002 states that superiority effects in multiple wh relatives in various languages mirror those in multiple wh questions, giving the examples in (26-28). Russian has no Superiority effects in multiple questions, and also has none with multiple wh relatives.

- (26) a. **Kto kogo** uznaet, tot togo i poljubit.  
who whom knows that that<sub>ACC</sub> and loves  
'Everyone will love the person they will know.'  
b. **Kogo kto** uznaet, togo tot i poljubit.

Serbo-Croatian multiple questions exhibit Superiority effects only where wh-movement must occur, namely in embedded contexts and where C is overt. "Embedded contexts" obviously includes relative clauses, and as expected Superiority effects are manifested in multiple-wh relatives:

- (27) a. [**Ko koga** voli], taj o njemu i govori.  
who whom loves that about him even talks  
'Everyone talks about the person they love.'  
b. ?\***Koga ko** voli], taj o njemu / o njemu taj i govori.

Bulgarian, which wh-moves all wh-words in all contexts, displays Superiority effects everywhere, including both multiple questions and multiple relatives. Bošković's examples are of the correlative type, but the generalization holds for all other multiple relatives as well. (Note that

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<sup>8</sup>Superiority has been formalized in various ways, e.g. as a consequence of Shortest Move. All that concerns us here is the presence or absence of the effect.

Bošković's starred example, (28b), is bad for independent reasons; Bulgarian multiple relatives have the definite *-to* suffix on the last wh word or sometimes on both wh's, but never just on the first wh. I have added the (c-d) examples, which show that even with correct morphology, the object-subject wh-word order is ungrammatical.)

- (28) a. **Koj kogoto** običa, toj za nego i govori.  
 who whom loves he about him and talks  
 'Everyone talks about the person they love.'  
 b. \***Kogoto koj** običa, toj za nego /za nego toj i govori.  
 c. \***Kogo kojto** ...  
 d. \***Kogoto kojto**...

Citko 2006 shows that Polish correlatives, like multiple questions in that language, allow superiority violations:

- (29) a. **Kto co** chce, ten to dostanie.  
 who what wants that this gets  
 'Everyone gets what they want.'  
 b. **Co kto** chcił, ten to dostał.  
 'Everyone got what they wanted.'

To the best of my knowledge, the generalization that superiority effects in a given language are the same for all multiple wh constructions holds.<sup>9</sup> If true, this is quite strong evidence that multiple wh relatives, both correlatives and, in languages which allow them, free relatives, have the same structure as multiple wh questions. Investigation of how robust this generalization is, across languages and across constructions within a language, is an obvious avenue for further research.

#### 4 Matching effects

Another classic issue in the analysis of free relatives is matching effects. Like many others, Slavic languages exhibit matching, in the sense that the wh-phrase in a free relative must fit the case and subcategorization requirements of the relative clause's position/function within the main clause. Serbo-Croatian and Slovene examples from Izvorski 1997 are given in (30-31). (30b) is ungrammatical because the verb *unajmiću*

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<sup>9</sup>Bošković 2002 gives examples of superiority effects in multiple wh indefinite constructions as well as questions and relatives.

requires a nominal object, not a PP like *s kime*. (31b) is bad because ‘help’ takes a dative complement, while the wh-word *kdor* is nominative.

- (30) a. Pričaću [s **kime** god ti budeš pričao]. (SC)  
 I-will-talk with who ever you will-be talked  
 ‘I will talk with whoever you talk with.’  
 b. \*Unajmiću [s **kime** god budeš pričao].  
 I-will-hire with who ever you-will-be talked  
 ‘I will hire whoever you talk with.’
- (31) a. Pomagal bom [**komur** oni pomagajo]. (SN)  
 help I-will wh<sub>DAT</sub> they help  
 ‘I will help whoever they help.’  
 b. \*Pomagal bom [**kdor** pride prvi].  
 help I-will wh<sub>NOM</sub> comes first  
 ‘I will help whoever comes first.’

Multiple-wh free relatives in Bulgarian have matching effects, as I showed in Rudin 1986. In (30) the verb *grabnaha* requires a nominal object; thus a free relative starting with a wh pronoun is fine, while one starting with a wh prepositional phrase is ungrammatical.<sup>10</sup>

- (32) a. Ženite grabnaha **koj** **kakvoto** vidi.  
 the-women grabbed who what saw  
 ‘The women each grabbed whatever she saw.’  
 b. \*Ženite grabnaha **ot** **kogo** **kakvoto** možaha.  
 the-women grabbed from whom what could  
 ‘The women grabbed whatever they could from anyone.’

In contrast, correlatives, which are not arguments and not in a subcategorized position, have no matching effect. In (33a), a left-peripheral correlative clause is perfectly fine with an initial preposition, while the same clause in a position in which it would be the subcategorized object of *vârni* is ungrammatical. A preposition-initial relative like *ot kogo kakvoto si vzel* is possible only as a correlative, not as a subcategorized free relative.

<sup>10</sup>Rather unexpectedly, some Bulgarian speakers find (30b) grammatical with definite marking on both wh words:

i. Ženite grabnaha **ot kogoto** **kakvoto** možaha.

See below for discussion of *wh-to wh-to* vs. *wh wh-to*.



- (33) a. **Ot kogo kakvoto** si vzél, vârni go na  
 from whom what you-have taken return<sub>IMP</sub> it to  
 nego.  
 him.  
 ‘Whatever you’ve taken from anyone, return it to him.’  
 (correlative)
- b. \*Vârni **ot kogo kakvoto** si vzél.  
 return from whom what you-have taken  
 ‘Return whatever you’ve taken from anyone.’  
 (free relative)

The fact that multiple wh free relatives in Bulgarian exhibit matching effects is thus one more difference between them and correlatives (and one more indication that multiple wh relatives are not all correlatives). It also suggests that matching effects do not necessarily support the Head Account of free relatives. Matching effects have often been used as arguments for the Head Account; the idea being that the head of DP would be subcategorized by the matrix clause. However, it seems quite clear in this case that the wh words are not head(s) of the DP containing the relative clause, and the matching effect must be accounted for in some other way. As I’ve already noted, multiple wh heads of DP in a structure like (7b) would surely be ruled out semantically if not syntactically. Furthermore, an alternate structure with just the first wh in the DP head also seems wrong semantically; in (30a) for example, the women grabbed “what”, not “who”, but if just one wh were to be the head, it would presumably be *koj*, not *kakvoto*. The fact that the first wh can have the definite *-to* suffix also argues against such an account, since the head would arguably be a wh-indefinite pronoun. Multiple wh free relatives thus support not only the Comp Account, but the idea that matching effects must be explainable under the Comp Account.

### 5 Some questions about Bulgarian

Since this paper is basically all about raising questions, I list here several unsolved or under-investigated aspects of Bulgarian multiple relatives. No doubt similar issues deserve attention in other Slavic languages as well.

### 5.1 The form of wh words themselves: wh wh-to vs. wh-to wh-to

The wh words in Bulgarian multiple relatives resemble interrogative wh words, but with a definitizing suffix *-to* which must occur on at least the second wh word, and may occur on both.<sup>11</sup> Examples of both types have occurred throughout the paper; a direct comparison is given in (34).

- (34) [koj kakvoto ima] vs. [kojto kakvoto ima]  
who what<sub>DEF</sub> has wh<sub>DEF</sub> what<sub>DEF</sub> has

It is unclear to me what the difference is between relatives with *-to* only at the end of the wh string: [wh wh-*to*], and those with *-to* affixed to both wh words: [wh-*to* wh-*to*]. There appears to be no difference in syntactic behavior between the two constructions,<sup>12</sup> and if there is a semantic distinction, it is extremely subtle. It is possible that there is a difference in interpretation. Olga Arnaudova (pc) suggests that (35a-b) are not quite identical, in spite of their identical English glosses.

- (35) a. Koj kakvoto iska, da vzeme.  
who what<sub>DEF</sub> wants to take  
'Let everyone take whatever they want.'  
b. Kojto kakvoto iska, da vzeme.  
wh<sub>DEF</sub> what<sub>DEF</sub> wants to take  
'Let everyone take whatever they want.'

For her, (35a) has a pair-list reading: Given a set of things and a set of people, each person is to take whichever of those things he or she wants. By contrast, (35b) has a universal quantifier reading, and could be paraphrased with (36):

- (36) Vseki kakvoto iska da vzeme.  
everyone what<sub>DEF</sub> wants to take  
'Let everyone take whatever they want.'

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<sup>11</sup>The *-to* suffix appears on the single wh word of headed relatives as well, but the inventory of wh words that occurs in headed relatives is slightly different; for instance, *kojto/koeto/kojato/kuito* 'which (m/n/f/pl)' is found in headed but not free relatives, while *kakvoto* in the meaning of 'what' is found in free relatives but not in headed ones.

<sup>12</sup>I have previously suggested (Rudin 1986) that the ability of one *-to* to make the entire wh-string definite proves that the string is a constituent; however, I know of no evidence that [wh wh-*to*] is a tighter constituent than [wh-*to* wh-*to*].

I have not been able to confirm this judgement with other speakers. The issue is complicated by the fact that some speakers strongly prefer one version or the other. Two of my consultants consistently “correct” [wh wh-*to*] examples to [wh-*to* wh-*to*], while another nearly always states [wh-*to* wh-*to*] examples “would sound better” without the first -*to*. In fact, the difference may be primarily stylistic, involving idiolectal preferences and perhaps colloquial vs. more formal style.<sup>13</sup>

### 5.2 What combinations of wh words/phrases are possible?

Multiple wh relatives are rather infrequent in texts and it is difficult to find examples of them with the broad range of wh-word combinations that occur in multiple questions. This in turn makes it difficult to investigate issues such as whether humanness, d-linking, or other factors affect the ordering of wh words in a cluster, as they do in questions. By far the most frequently attested combination is *koj(to)* ‘who’ followed by an accusative or adverbial wh word. I have found no examples of free relative with more than two wh words, none with sequences of adjuncts, no combinations involving *zašto* ‘why’, or adjectival wh words *koj/koja/koe/koi* ‘which,’ but would not want to claim at this point that these are impossible. Testing invented examples of these types with native speakers is an obvious next step.

### 5.3 What about apparent (nonQ) multiple wh main clauses?

Finally, consider multiple-wh constructions in which the wh-clause appears to constitute a complete sentence. These may simply be elliptical (i.e. missing a higher matrix clause), but it is possible something more interesting is going on in at least some of them. (37a) is a common saying, a frequently repeated frozen expression, but the other examples are not.

- (37) a. **Koj kakto** go razbira.  
who how it understands  
‘However each one understands it’, i.e. ‘To each his own’

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<sup>13</sup>In my admittedly tiny sample, I have the impression that strong preference for single -*to* correlates with desire to use only correct literary Bulgarian. Yovka Tisheva (pc) suggests dialect may be a factor as well.

- b. Gasjat se lampite i **koi kogoto** hvane.  
 extinguish<sub>3,PL</sub> refl the-lights and who whom grabs  
 ‘The lights go out and everyone grabs someone/whoever  
 they can’ (web)
- c. I tuk veče **koj kogoto** izjade.  
 and here already who whom ate-up  
 ‘And here it’s dog eat dog.’ (web)
- d. **Komu kakvoto** e nužno seme.  
 to whom what-kind is necessary seed  
 ‘To each whatever kind of seed he needs.’ (Talev)

One scenario worth investigating is that one or both wh’s in such sentences are indefinite pronouns rather than relative wh words. Bare wh words do function as indefinite pronouns in many languages, and can do so in Bulgarian under certain conditions, especially in existential constructions with *ima* ‘there is’ or *njama* ‘there isn’t’, as in (38).

- (38) Njama koj da mi pomaga.  
 there-isn’t who to me help  
 ‘There’s no one to help me.’

## 6 An aside on Romanian

Before closing, let us take a brief detour out of the Slavic family.<sup>14</sup> As the other classical +MFS language, along with Bulgarian, Romanian is clearly of interest. To the extent that multiple wh relatives parallel multiple questions, we predict Romanian will mirror the Bulgarian facts. Although I have not yet investigated Romanian in detail, an initial glance suggests that the prediction will turn out to be accurate.

Romanian does have multiple wh relatives, and as expected they appear to be more similar to those of Bulgarian than those in e.g. Polish. There are two types; one with a d-linked wh word, for instance, *care* in (39), and one with two non-d-linked wh words, as in (40).

- (39) a. Luați **care ce** vreți.  
 take who what you-want  
 ‘Take whatever you all want.’
- b. \* ... **ce care** ...

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<sup>14</sup>All of the data in this section were generously provided by Virginia Hill.

- (40) a. Trăncănește **cine ce** vrea  
 blabs who what wants  
 ‘Everyone's blabbing whatever they want.’  
 b. \*... **ce cine** ...  
 c. \***Cine ce** vrea trăncănește.

In both cases, the order of the two wh-words is fixed; that is, superiority is respected, as can be seen in the (b) examples. Furthermore, notice that the multiple wh clause not only can, but must follow the main verb (see (40c)), and it contains no correlative demonstrative. These are clearly free relatives, not correlatives.

Romanian also has single-wh correlatives, which precede the main clause and are referenced by a correlative demonstrative, *aia* in example (41).<sup>15</sup>

- (41) **Ce** seamăună, aia culege.  
 what sows that reaps  
 ‘He/she reaps what he/she sowed’

Multiple wh correlatives are, however, impossible in Romanian. (42) shows that a semantically and pragmatically reasonable attempt to add another wh-phrase to (41), giving a meaning something like ‘whoever sows something, reaps it’ or ‘one reaps whatever one sows,’ is ungrammatical. It’s not clear to me what could account for this; however, note that many languages (e.g. English) lack correlatives altogether, so restricted availability of correlatives is not very surprising.

- (42) \***Cine ce** seamăună, aia culege.  
 who what sows that reaps

Even from this limited data, at least two things seem clear: (1) Romanian patterns with Bulgarian in having true multiple wh free relatives (as opposed to correlatives), as we might expect if this option is dependent on having multiple wh in SpecCP and (2) Romanian continues the apparently universal tendency for superiority effects to obtain in multiple relative constructions if and only if they obtain in multiple questions in that language.

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<sup>15</sup>This construction is apparently common in proverbs, as correlatives are in at least some of the Slavic languages, but rare in colloquial language.

## 7 Conclusions

As promised, this paper contains more questions than answers; my intention is to promote investigation of multiple wh relatives, not to present a particular analysis at this point. Nevertheless, some preliminary conclusions can be drawn. More work is needed to support claims about Slavic as a whole, much less universals, but some facts are clear and a split is evident between Bulgarian (and Romanian) on the one hand and Polish on the other. To sum up very roughly, I have shown that:

1. Slavic and other multiple wh fronting languages differ in the type and structure of multiple wh relative clauses they allow. Some have only multiple correlatives, some have only multiple free relatives, some have both. These differences are manifested in the multiple wh relative's position with respect to the matrix clause, the presence or lack of an anaphoric demonstrative, interpretation possibilities, and perhaps by clitic placement.
2. The existence of multiple wh free relatives (as opposed to correlatives) appears to correlate with "+MFS" structure for multiple questions. That is, apparently only languages with wh movement of all wh words to SpecCP permit multiple wh free relatives.
3. Multiple wh relatives (both free relatives and correlatives) seem to align with multiple wh questions with regard to the position of the wh words in a given language. Superiority effects mirror those in questions.
4. Multiple wh free relatives give some support to the Comp Account of free relatives; at least, they are very problematic for the Head Account.

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