

# On coordination of Wh-phrases in Russian

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## 1.Introduction

The paper deals with a phenomenon observed in Russian multiple Wh-questions, where Wh-phrases of different syntactic functions and categories can coordinate:

(1) Kto i kogo udaril?  
Who and whom hit  
Who hit whom?

(2) Kto i ot kogo ob etom slyšal?  
Who and from whom about this heard  
Who has heard from whom about this?

Although multiple questions in Russian and other Slavic languages generally are relatively well studied, constructions with coordination of Wh-phrases (henceforth CWh-constructions), surprising in many aspects, somehow have not got any considerable attention on behalf of formal syntacticians working at Slavic languages.

The striking property of CWh-constructions is that they put no restrictions at all on compatibility of coordinated Wh-phrases. The examples in (1)-(2) have already shown that a subject Wh-phrase can coordinate with an object Wh-phrase, and that a Wh-NP can coordinate with a Wh-PP. The examples in (3)-(6) further demonstrate the freedom of Wh-phrases coordination:

(3) Kto i začem prixodil?  
who and for.what came  
Who came and what for?

(4) Komu i o čjom ty rasskazyval?  
Whom and about what you told  
Whom did you tell about what?

(5) Kogda i čem zakončilas' Perestrojka?  
When and with.what ended Perestrojka  
When did Perestrojka end and how?

(6) Kakuju knigu i komu Vasja nedavno ženil?  
What book and to.who V. recently recommended  
What book did Vasja recently recommend to whom?

As well known, coordination is generally possible only for phrases of identical categories which occupy identical syntactic positions. In accordance with this, e.g. the answers to (1) and (2) do not allow coordination of phrases substituted for the Wh-phrases<sup>1</sup>:

(7) Udaril Vasja (\*i) Petju.  
Hit Vasja (\*and) Peter.ACC  
Vasja hit Peter.

(8) Ob etom slyšal Vasja (\*i) ot Peti.  
About this heard V. (\*and) from Peter  
Vasja heard about this from Peter.

For this reason, the grammaticality of (1)-(6) puts a serious problem for any theory of coordination. It is most natural, therefore, to attempt to argue for an analysis of CWh-constructions which would not view coordination of Wh-phrases. This possibility is discussed in section 2, considering an analysis of CWh-constructions under which they result from ellipsis (Sluicing) in a construction where interrogative sentences (CPs) are coordinated. I argue that this analysis makes a number of wrong predictions and therefore is to be rejected. CWh-constructions have monoclausal structure, and since Wh-phrases are coordinated, we have to acknowledge that in some landing site of Wh-phrases in Russian coordination of extracted elements is allowed.

Rejection of the Sluicing analysis leads to the conclusion that the coordinate Wh-phrases co-exist within one clause. This, in turn, implies that what we have in CWh-constructions is true coordination of Wh-phrases extracted into the Spec of the CP. In section 3 I will show that if we acknowledge coordination of Wh-phrases, we will be able to account for a number of important characteristics of CWh-constructions, including lack of Superiority effects and lack of pair-list interpretation. At the same time, it will be argued that, contrary to what can seem at first blush, the ECP is satisfied in the construction with coordinated Wh-phrases.

Admittedly, coordination of Wh-phrases extracted into the Spec of the CP is a rather unorthodox solution; besides, it requires an explanation as to why this is not possible in some other languages. I will suggest that a more general cross-linguistic parametrization is necessary, under which any given language is characterized as allowing or disallowing coordination of extractees in A'-position. In support for this hypothesis, I will show that Russian negative quantifiers, which arguably undergo extraction into the Spec of the NegP (or PolP), also may coordinate.

## 2. Against the Sluicing hypothesis

As stated above, the central problem with CWh-constructions is that they apparently involve coordination of phrases which normally are not expected to coordinate. We have already seen that coordinated Wh-phrases may be of different categories and may bear different grammatical functions. Here Russian demonstrates an important difference from

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<sup>1</sup> As shown in Sag et al. (1985), the categorial identity in a number of occasions might not be an absolute requirement for coordination; however, the requirement of identity of grammatical functions does not seem to be abolished under any conditions under the analysis of Sag et al.

English, where, according to Browne (1972) and Grimshaw (1978), coordination of Wh-phrases is restricted to elements of the same category bearing the same grammatical relation, cf. (examples from Grimshaw (1978)):

- (9)a. [Which book] and [which pencil] did John buy?  
 b. [On which table] and [under which flower] pot did John put the keys?  
 (10)a. \*[What] and [how hard] did John kick?  
 b. \*[Who] and [what] bought?

In (10a) a Wh-NP coordinates with a Wh adverbial phrase; in (10b) two Wh-NPs bearing different grammatical relations, namely the subject and the object, coordinate. In order to account for the contrast in grammaticality between (9) and (10), Grimshaw (1978) argues that English conjoined Wh-phrases are coordinated in the deep structure prior to the Wh-movement ('underlyingly conjoined', in Grimshaw's terms). On the assumption that basic coordination is possible only for phrases of one and the same category bearing one and the same grammatical relation, the ungrammaticality of (10) is straightforwardly accounted for by this analysis.

Grimshaw's analysis, however, is inapplicable to Russian exactly because coordination of Wh-phrases in that language does not require the identity of categories and grammatical relations of the Wh-phrases. In addition to (1)-(6), consider (11a-b), which are exactly equivalent to the English examples in (10a-b), but are perfectly grammatical:

- (11)a. Čto i naskol'ko sil'no Ivan udaril?  
 What and how strong Ivan hit  
 What did Ivan hit and how strong?  
 b. Kto i čto kupil?  
 Who and what bought  
 Who bought what?

The only non-stipulative way to view the Wh-phrases in (1)-(6) and (11) as coordinated in the deep structure would be to eliminate the requirement of categorial and functional identity of coordinated phrases in the grammar of Russian. This, however, is hardly possible, given the impossibility to coordinate non-Wh phrases of different categories and/or grammatical functions, already illustrated in (7)-(8). Allowing deep structure coordination without identity for Wh-phrases, we would face the expectation that it is possible for other elements as well. Seeing no principle-based way to account for the contrast between the Wh and non-Wh elements in this respect, we are well advised to look for some other structural representation of the CWh-construction in Russian, which would not involve deep structure coordination of Wh-phrases.

Since certain kind of coordination definitely takes place in the CWh-construction, as manifested by the conjunction *i*, we should look for a possibility to treat it as coordination of some categories different from Wh-phrases. The solution which comes to mind here is to treat the CWh-construction as coordination of sentences accompanied by ellipsis in one of the conjuncts. This would give (12) as the deep structure for (13):

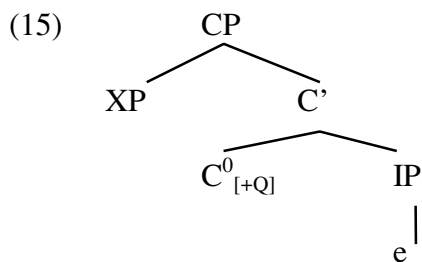
(12) Kuda i začem on pošjol?  
 Where and what.for he went  
 Where did he go and what for?

(13) [Kuda<sub>i</sub> [on pošjol t<sub>i</sub>]] i [začem<sub>j</sub> [on pošjol t<sub>j</sub>]]?  
 Where he went and what.for he went

The ellipsis in the first clause results in the surface structure of (12):

(14) [~~on pošjol t<sub>i</sub>~~]<sub>i</sub> i [začem<sub>j</sub> [on pošjol t<sub>j</sub>]]?  
 Where he went and what.for he went

Such analysis would be endorsed by the fact that the type of ellipsis in (14) is well known cross-linguistically and is witnessed elsewhere in Russian. The ellipsis of all the material of a Wh-question except the Wh-phrase itself was first considered in Ross (1968), where it was termed Sluicing. The subsequent work on Sluicing (see Chao 1987, Lobeck 1995, Chung, Ladusaw, and McCloskey (1995), Romero (1997), Merchant (1998), among many other publications) has coined the analysis of this phenomenon which is adopted here. According to this analysis, the elided phrase in Sluicing is the IP. The empty category in the position of the IP is governed by C<sup>0</sup> bearing the feature [+Q]:



On the assumption that governing an EC in the IP position is allowed only for C<sup>0</sup> with the feature [+Q], it is explained why Sluicing is possible in interrogative, but not e.g. in declarative sentences.

That Sluicing in Russian is generally possible is seen from (16):

(16) Kuda on pošjol i začem?  
 Where he went and why  
 Where did he go and why?

Here Sluicing takes place in the second conjunct, to the effect that the structure of (16) is the mirror-image of that of (14):

(17) [Kuda<sub>i</sub> [on pošjol t<sub>i</sub>]] i [začem<sub>j</sub> [~~on pošjol t<sub>j</sub>~~]]?  
 where he went and what.for he went  
 Where did he go and what for?

The Sluicing analysis of the CWh-construction has a number of advantages. First and foremost, the problematic coordination of Wh-phrases: the structure in (14) involves coordination of two clauses, i.e. phrases of identical categories. Second, it allows to explain

an interesting distributional restriction on CWh-constructions, namely their possibility in matrix and embedded questions, but not in relative constructions, despite the fact that the former also involve movement of a Wh-phrase in Russian, cf. (18) vs. (19):

(18) A: O kom i s kem ty razgovarival?  
 About whom and with whom you talked  
 Whom were you talking about and with whom?

B: Ja razgovarival s Petej o njom samom.  
 I talked to Pete about him self  
 I talked to Peter about him.

(19) \*čelovek, o kotorom i s kotorym ja govoril  
 person about whom and with whom I talked  
 lit. ‘person about whom and with whom I talked’

It has been noticed since van Riemsdijk (1978) that Sluicing is unavailable in relative clauses. Whatever the reason for this is, the Sluicing analysis of CWh-constructions makes a correct prediction about their distribution.

However, I will attempt to argue right away that the Sluicing analysis wrongly predicts impossibility of certain types of CWh-constructions which in fact are completely grammatical. This is the case for CWh-constructions in which the second of the conjoined Wh-phrases is an argument:

(20) Kto i kakoj gorod zaxvatil?  
 Who and which city conquered  
 Who conquered which city?

(21) Začem i komu eto nužno?  
 What.for and whom this necessary  
 What for is it necessary and to whom?

In order to see why the Sluicing analysis predicts ungrammaticality of such sentences, I will now consider their reconstructed structure, after making some brief remarks on reconstruction in general.

It is well known at least since Fiengo & May (1992) that the reconstruction of an elided site may match not completely with its antecedent; e.g. an R-expression which belongs to the antecedent may correspond to a pronoun in the reconstruction in order for the reconstructed clause to satisfy the Principle C of the Binding Theory (so-called “vehicle change”). It is also known that a trace within the reconstruction site can correspond with an R-expression or a pronoun in the antecedent, cf. :

(22) Dulles suspected Philby, who Angleton did, too.

Here the R-expression in the object position of the antecedent VP corresponds to the trace in the reconstructed VP:

(23) Dulles [<sub>VP</sub> suspected Philby], who<sub>i</sub> Angleton did [<sub>VP</sub> ~~suspect t<sub>i</sub>~~], too.

The reconstruction in Sluicing was studied in detail by Chung, Ladusaw and McCloskey (1995) (henceforth CLM), who show that restrictions on Sluicing can be captured only by a theory which assigns an articulated internal structure to the empty IP at the LF (they call this theoretical device *IP recycling*):

(24) **John likes Mary**. I don't know [why<sub>i</sub> [~~John likes Mary t<sub>i</sub>~~]].

The antecedent and the «recycled» IP can coincide non-completely. Thus, in (24) the «recycled» IP contains an empty category (trace) lacking in the antecedent IP. Furthermore, in (25) the trace within the «recycled» IP corresponds to an indefinite pronoun in the antecedent IP:

(25) **Mary bought something**, but I don't know what<sub>i</sub> [~~Mary bought e<sub>i</sub>~~].

In order to accommodate (24) and (25), CLM propose that IP recycling involves two special processes which they call Sprouting and Merger. By Sprouting, CLM mean adding to the LF-representation of the «recycled» IP an empty category which is absent in the antecedent IP. In this way the IP recycling in (24) is accounted for. Merger is a process which takes place with IP Recycling in constructions like (25). CLM follow the approach to indefinites developed by Heim (1982), where indefinites are treated not as referential expressions, but rather as 'free variables' which can be bound by an operator under certain conditions. Thus the recycling of the antecedent IP into the sluice in (25) results in an LF representation which is grammatical according to CLM:

(25)' **Mary bought something**, but I don't know what<sub>i</sub> [~~Mary bought something<sub>i</sub>~~].

That Sprouting would be inevitable in the putative Sluicing structure of CWh-constructions is evidenced e.g. by (26). In this sentence, the expressed IP does not contain the temporal adjunct, but the recycled IP contains the trace of that adjunct; conversely, the recycled IP does not contain the purpose adjunct, but the expressed IP contains its trace:

(26) Kogda i začem on eto sdelał?  
When and what.for he this did  
When did he do it and what for?

(26)' [Kogda<sub>i</sub> [~~on eto sdelał t<sub>i</sub>~~]] i [začem<sub>j</sub> [on eto sdelał t<sub>j</sub>]]?

Sprouting, however, cannot be operative on arguments. To see why, let us consider (27):

(27) Kto i začem prišedil?  
who and what.for came  
Who came and what for?

The trace of the purpose adjunct *začem* in the second IP of course may have no correspondence in the first IP due to Sprouting, in the same way as in (24); however, for the trace of the subject in the first IP it is impossible to have no correspondence in the second IP, as this would mean that the subject theta-role of the verb in the second IP is not

saturated. In order to avoid the violation of the Theta-criterion, we have to postulate a pronominal in the subject position of the second IP:

(28) [Kto<sub>i</sub> [~~t<sub>i</sub> prišedil~~]] i [začem<sub>j</sub> [pro<sub>i</sub> prišedil t<sub>j</sub>]]?  
 Who came and what.for came

Such mismatch between the expressed and the recycled IP is not predicted by CLM's framework. However, there are reasons to expect that the 'trace vs. pronominal' mismatch between the elided site and the antecedent generally is not ruled out in constructions with ellipsis. Indeed, we have seen above that it is possible for an R-expression in the antecedent to correspond to a trace in the elided site (cf. (23)). Given the possibility of the 'trace vs. R-expression' mismatch, the 'trace vs. pronominal' mismatch should not come as a surprise.

After these general remarks on reconstruction in putative Sluicing structures, let us turn back to the CWh-constructions where the second Wh-phrase is an argument. As stated above, they are problematic for the Sluicing analysis. Let us see why. Consider the structure which the Sluicing analysis would assign to (20) repeated here under (29):

(29) Kto i kakoj gorod zaxvatil?  
 Who and which city conquered  
 Who conquered which city?

The empty pronominal is inserted into the subject position of the second IP in the same way as in (28); however, one more empty pronominal is needed in the structure of (29) in order for the Theta-criterion to be obeyed: that one must be inserted in the object position of the first IP:

(29)' Kto<sub>i</sub> [~~t<sub>i</sub> zaxvatil~~ pro<sub>j</sub>] i kakoj gorod<sub>j</sub> [pro<sub>i</sub> zaxvatil t<sub>j</sub>]?  
~~Who~~ Who and which city

I would like to claim now that (29)', which is the only possible structure of (29) under the Sluicing analysis, cannot be accepted. The reason for this is that (29)' involves the cataphoric dependency between the Wh-phrase *kakoj gorod* 'which city' and the empty pronominal. Cataphoric use of pronominals, heavily restricted for Russian in general, is totally impossible when the antecedent of a pronominal is a Wh-phrase. This is evidenced e.g. by «canonical» Sluicing constructions in Russian, with a Wh-phrase stranded on the right margin of the sentence, as in (30):

(30) Ja govoril s nim, no ne skažu, o čom.  
 I talked to him but not I.will.say about what  
 I talked to him, but I will not say about what.

In such constructions, the "stranded" Wh-phrase cannot be an argument which corresponds to a pronominal, either overt or empty, in the first clause:

(31) \*On<sub>i</sub>/pro<sub>i</sub> Mišu vstretil, no ja ne znaju,  
 He/pro Michael.ACC met but I not know  
 kto<sub>i</sub> [~~t<sub>i</sub> — Mišu — vstretil~~].  
 Who Michael.ACC met

(32) \*Ja vstretil ego<sub>i</sub>/pro<sub>i</sub>, no ne skažu, kogo<sub>i</sub> [ja-vstretil-t<sub>i</sub>].  
 I met him/pro but not I.will.say whom I met  
 I met him, but I will not say whom.

Given this, the Sluicing analysis predicts ungrammaticality of (29), contrary to fact. Note that the possibility for the second Wh-phrase in CWh-constructions to be an argument is not at all restricted to (29), where the subject and the object are questioned; (33)-(37) show that other combinations of Wh-phrases with the second Wh-phrase is an argument are possible in CWh-constructions:

(33) Začem i komu eto nužno?  
 What.for and whom this necessary  
 What for is it necessary and to whom?

(34) Komu i što ty skazal?  
 Whom and what you said  
 Whom did you say and what?

(35) Kak i što ja dolžen delat’?  
 how and what I must do  
 What must I do and how?

(37) Kto i o čom tebe soobščil?  
 Who and about what to.you informed  
 Who informed you about whom?

In all these sentences the Theta-criterion would require that a pronoun co-referring with the second Wh-phrase be present in the reconstructed IP, thus creating an illegal cataphoric dependency.

Another problem with the Sluicing hypothesis concerns the possibility of “canonical” Sluicing constructions parallel to CWh-constructions. The sentences in (38)-(39) illustrate the general possibility of such constructions in Russian (see also (16) above):

(38) Kuda on pošjol i začem?  
 Where he went and what.for  
 Where did he go and what for?

(39) Kogda ty ego videl i gde?  
 when you him saw and where  
 When did you see him and where?

If CWh-constructions are analyzed as instances of Sluicing, we will come to the conclusion that Russian allows two directions of deletion in Sluicing constructions. However, it will turn out that restrictions on Sluicing vary considerably with respect to directionality. Indeed, Sluicing with a “stranded” Wh-phrase appears to be impossible if the stranded Wh-phrase is an argument, cf. (40) vs. (41), (42) vs. (43):



(40) Kto       prixodil       i       začem?  
 Who       came       and       what.for  
 Who came and what for?

(41) \*Začem prixodil i kto?

(42) Kogo     ty     vstretil     i     kogda?  
 Whom    you   met       and    where  
 Whom did you meet and where?

(43) \*Kogda ty vstretil i kogo?

(44) \*Kto     zaxvatil     i     kakoj gorod?  
 Who     conquered   and    which city  
 Who conquered which city?

(45) \*Kakoj gorod zaxvatil i kto?

Under the Sluicing analysis of CWh-constructions, Sluicing in (40)-(45) will operate on the same structure as in the corresponding CWh-construction. E.g. the grammatical CWh-construction in (29) repeated here and ungrammatical Sluicing construction in (44) would result from ellipsis in one and the same structure in (46):

(29) Kto       i       kakoj gorod zaxvatil?  
 Who       and    which city   conquered  
 Who conquered which city?

(46) Kto<sub>i</sub> [t<sub>i</sub> zaxvatil **pro**<sub>j</sub>] i kakoj gorod<sub>j</sub> [pro<sub>i</sub> zaxvatil t<sub>j</sub>]?

Therefore it would be necessary to explain why Sluicing can operate only in one direction when the second Wh-phrase is an argument. Note that when the second Wh-phrase is an adjunct, Sluicing is able to operate in both directions, producing (44) above and (47):

(47) Kto       i       začem       prixodil?  
 who       and    what.for    came  
 Who came and what for?

(48) [Kto [~~prixodil t<sub>i</sub>~~] i [začem<sub>j</sub> [pro<sub>i</sub> prixodil t<sub>j</sub>]]?

There does not seem, however, to be any non-stipulative way to account for this argument/adjunct asymmetry.

At the same time, the impossibility to «strand» a Wh-argument is well explained under the Sluicing analysis of sentences like (41)-(45). Note that «stranding» of a Wh-argument would create a cataphoric dependency between a Wh-phrase and an empty pronoun in the first IP:

(44)' Kto<sub>i</sub> [t<sub>i</sub> zaxvatil **pro**<sub>j</sub>] i **kakoj gorod**<sub>j</sub> [~~on<sub>i</sub> zaxvatil t<sub>j</sub>~~]?  
 Who   conquered   and    which city   he conquered

This cataphoric dependency is ungrammatical, as we have already seen above.

By contrast, no cataphoric dependency will arise if a Wh-adjunct is «stranded», since no empty pronoun coreferent with the adjunct is needed in the first conjunct: Sprouting will be available in this case:

(49) [Kto<sub>i</sub> [t<sub>i</sub> prixodil]] i [začem<sub>j</sub> [~~pro<sub>i</sub>~~ prixodil t<sub>j</sub>]]?  
 Who came and what.for came

The observations we have just made allow us to arrive at the following conclusion. The Sluicing analysis is applicable to the constructions with a «stranded» Wh-phrase, where it explains the argument/adjunct asymmetry which we have detected. However, assigning the same analysis to the CWh-constructions creates serious problems. Not only would it wrongly predict impossibility of certain CWh-constructions, but it also would leave unexplained why canonical Sluicing with a «stranded» Wh-phrase is impossible in a number of occasions where a CWh-construction is possible.

Finally, the Sluicing analysis of CWh-constructions runs into serious problems with account for another coreference effect. When two Wh-questions are coordinated without ellipsis, the Wh-phrase of the first conjunct can correspond either to an empty, or, often preferably, to an overt pronominal in the second conjunct:

(50) [Kogo<sub>i</sub> Petja izbil] i [za što Petja ego<sub>i</sub>/??pro<sub>i</sub> izbil]?  
 Whom Peter beat and for what Peter him beat  
 Whom did Peter beat and what for did Peter beat him?

(51) [Kto<sub>i</sub> videl Petju] i [kogda on<sub>i</sub>/??pro<sub>i</sub> videl Petju]?  
 Who saw Peter.ACC and when he saw Peter.ACC  
 Who saw Peter and when did he see him?

If CWh-constructions really were the result of Sluicing operating on such sentences, we would expect that CWh-constructions may contain an overt pronoun corresponding to the first Wh-phrase. E.g. Sluicing in (50) could give rise to (52), which in fact is sharply ungrammatical:

(52) \*Kogo<sub>i</sub> i za što Petja ego<sub>i</sub> izbil?  
 Whom and for what Peter him beat

(52)' Kogo<sub>i</sub> [~~Petja izbil t<sub>i</sub>~~] i za što<sub>j</sub> [Petja ego<sub>i</sub>/??pro<sub>i</sub> izbil t<sub>j</sub>]?

In order to rescue the Sluicing analysis of CWh-constructions, we will need to explain why in coordinate constructions which underlie Sluicing a pronominal in the second conjunct cannot correspond to a Wh-phrase of the first conjunct, as it can elsewhere. Again, I do not see any non-stipulative way to explain this.

Of course, these problems will not arise if true coordination of Wh-phrases, rather than coordination of sentences accompanied by Sluicing, is viewed in the CWh-construction. In this case, no cataphoric dependency will arise when the second Wh-phrase is an argument. And it will not come as a surprise that a CWh-construction might be possible when the corresponding construction with stranding of a Wh-phrase is ungrammatical.

To conclude, in the present section I have argued that the Sluicing analysis, attractive though it seems, cannot account for a number of properties of CWh-constructions. By contrast, all these properties fall out for free if we acknowledge true coordination of Wh-phrases, despite the fact that this coordination violates the putatively general identity constraints on coordinate structure. I discuss this solution in the next section.

### **3. Coordination in the Spec of the CP?**

Rejecting the Sluicing hypothesis means, in essence, rejecting any analysis under which Wh-phrases in CWh-constructions are located in different clauses. But if the Wh-phrases are in one and the same clause, they must occupy one and the same position inside it, unless we want to claim that coordination of elements taking different structural positions is possible. Therefore, if my arguments against the Sluicing hypothesis are correct, then the Wh-phrases in CWh-constructions must occupy one and the same structural position in a sentence.

In the present section, I will first mention some further properties of CWh-constructions, which, possibly not giving evidence against the Sluicing hypothesis, are well accounted for under the coordination hypothesis. Then some theoretical and typological problems of the coordination hypothesis will be discussed.

#### **3.1. The lack of pair-list interpretation**

It is well known that multiple Wh-questions generally favour pair-list readings. Thus, in English the question in (53) is apt when the expected answer comprises several pairs: A went to X, B went to Y, etc.:

(53) Who went where?

Various analyses attempting to explain this semantic effect in English and some other languages, including e.g. Bulgarian, Hungarian, and Romanian (see Comorovski 1989, Garrett 1996, Hornstein 1995, Kiss 1993, Ross 1973, Rudin 1985), assume that the two Wh-phrases occupy different positions not only in syntax, but also at LF. Specifically, at LF the first Wh-phrase (*who* in (53)) occupies the same position that universal quantifiers occupy (according to Kiss (1993), in Hungarian this is the case not only at LF, but also in syntax). This allows to arrive at the interpretation under which one of the Wh-phrases is understood as a quantifier over some set: 'for every x (x=A,B, ...), where did x go'.

Slavic languages differ from English in that they require fronting of all Wh-phrases, even if they are not coordinated. However, multiple Wh-questions without coordination show the same interpretative peculiarity in Slavic as they do in English. Thus, (54) requires the pair-list interpretation in Russian:

(54) Kto       kuda   pošjol?  
      who       where went  
Who went where?

Unlike the corresponding CWh-construction, (54) is not apt when only one pair is expected in the answer. Rather, (54) presupposes that several (known) people have gone somewhere, and directions of each person are questioned<sup>2</sup>.

In ample literature devoted to Slavic multiple Wh-questions without coordination (see Bošković 1996, 1997, Lambova 1999, Rudin 1988, 1996, Stepanović 1995, among many others), the question of the pair-list interpretation gets relatively little attention. However, it is uniformly acknowledged that extracted Wh-phrases in such questions differ in the positions they occupy. Particular solutions may vary from language to language and from scholar to scholar. Thus, Rudin argues that in Bulgarian one Wh-phrase occupies the Spec of the CP, but the rest are adjoined to the Spec of the CP, whereas in Serbo-Croatian, Polish and Russian one Wh-phrase is in the Spec of the CP, but the rest are adjoined to the IP. Lambova argues against Rudin's account of Bulgarian and defends an alternative analysis under which the leftmost Wh-phrase moves in the Spec of the CP, but the rest Wh-phrases undergo focus movement.

Despite of these variations, any of the above mentioned analyses allows to derive the pair-list interpretation, provided that the first Wh-phrase may further move into the position designated for universal quantifiers at LF. In contrast, if Wh-phrases are coordinated, it is predicted in a very simple way that the pair-list interpretation is unavailable. Indeed, movement of one of the coordinated Wh-phrases in a quantifier position would violate the Coordinate Structure Constraint, which is generally assumed to be operative at the LF. In this way, the interpretative difference between multiple Wh-questions with and without coordination gets a principle-based account.

### 3.2. The lack of Superiority effects

Another property observed for multiple Wh-questions in a number of languages is restrictedness of the relative order of Wh-phrases. Thus, it is well known that in English, when both the subject and the object are questioned, the former is extracted, but the latter remains in situ:

(55)a. Who hit whom?  
      b. \*Whom who hit?

In Chomsky (1981) such asymmetries, called there Superiority effects, get a structural account based on the ECP.

There is a big debate whether restrictions on order of Wh-phrases exist in multiple Wh-questions without coordination in Slavic languages (see e.g. Rudin 1996). Where they are

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<sup>2</sup> This contradicts the claim of Stepanov (1998), who denies that Russian multiple Wh-questions without coordination always get the pair-list interpretation. Stepanov's judgements, however, are at odds with the intuition of the native speakers I have consulted with and with my own intuition.

claimed to exist (e.g. in Bulgarian), they are also explained via the ECP: it is argued that, under ungrammatical orders, (one of) the Wh-phrases cannot govern the trace(s).

Turning to CWh-constructions, it is generally clear that different orders of conjuncts do not affect governing possibilities of these conjuncts. The status of Wh-constructions with respect to the ECP will be discussed in more detail in 3.3, but prior to this discussion we can see that the ECP does not predict that different orders of Wh-phrases in Wh-constructions vary with respect to grammaticality. Thus it is expected that CWh-constructions do not restrict the relative order of Wh-phrases.

This expectation is borne out. As shown by (56)-(57), relative order of Wh-phrases in CWh-constructions is interchangeable:

(56) a. Kto i što ob etom znaet?  
who and what about this knows  
Who knows what about this?

b. Čto i kto ob etom znaet?

(57) a. Kto i kuda pošjol?  
who and where went  
Who went where?

b. Kuda i kto pošjol?

Thus, we can see one more wanted prediction of the coordination hypothesis.

### 3.3. Wh-phrases coordination, government, and cross-linguistic parametrization

Coordination of extractees is, at best, treated as an exotic option in current syntactic research. However, it seems that it can be accommodated within in the syntactic theory in an uncostly way, as I will attempt to show now.

The crucial problem with coordination of extractees is that none of the coordinated elements governs its trace, cf.:

(58) [<sub>CP</sub> Kto<sub>i</sub> i kogo<sub>j</sub>] t<sub>i</sub> udaril t<sub>j</sub>?  
Who and whom hit  
Who hit whom?

The failure of both Wh-phrases to govern their traces leads to an ECP violation, thus predicting ungrammaticality of (58)(=1a), contrary to fact.

There is, however, a mechanism which helps to avoid the ECP violation. In Zoerner (1995) it is argued that indices of conjuncts are percolated onto the head of the coordinate phrase, which Zoerner calls '&P'. Evidence for this percolation comes, apart from some other sources, from sentences like (59). If the index of the second conjunct *Paul* is not present on the head of the coordinate phrase, the pronominal would not be bound, and thus the

Principle B would not be violated, thus preventing us from explaining the disjoint reference effect:

(59) [Robin and **Paul**] like **him**.

If, however, indices of both conjuncts are present on the coordinate phrase, coindexing of *Paul* and *him* is ruled out by the Principle B:

(60) [Robin<sub>i</sub> and **Paul**]<sub>i,j</sub> like **him**<sub>k,\*j</sub>.

Now if the same percolation of indices takes place when Wh-phrases are coordinated, the ECP in (58) will be satisfied, as the Spec of the CP functions as the governing antecedent for both traces:

(58') [<sub>CP</sub>Kto<sub>i</sub> i kogo]<sub>i,j</sub> t<sub>i</sub> udaril t<sub>j</sub>?  
 Who and whom hit  
 Who hit whom?

Note that Comorovski (1989) suggests the same percolation mechanism for CWh-constructions (conjoined questions, in her terms) in Romanian, the only language where "Russian-style" coordination of Wh-phrases has been reported. Another part of Comorovski's proposal, however, is base-generation of conjoined Wh-phrases in the Spec of the CP, instead of their extraction, which takes place in other types of Wh-questions (Wh-questions with a single Wh-phrase and multiple Wh-questions without coordination). In this way, Comorovski accounts for the following restriction on Romanian CWh-constructions: conjoined Wh-phrases must be clause-mates. To illustrate this restriction, Comorovski quotes the ungrammatical Romanian sentence where one of the conjoined Wh-phrases refers to the matrix, but the other one to the subordinate clause:

(61) ??[Cine<sub>i</sub> și ce]<sub>j</sub> ([ziceai [că] [e<sub>i</sub> își închipuie [că [ ai descoperit e<sub>j</sub>]]]]?  
 who and what (you-were-saying that) imagines that  
 you-have discovered

Who (were you saying that) imagines that you discovered something and what was it?

According to Comorovski, (61) is ungrammatical because coordinated Wh-phrases must be generated in the Spec of the CP of their clause, which cannot be the case for *ce* 'what' in (61).

Note, however, that in Russian such restriction does not exist. The Russian equivalent of (61) would not be grammatical for independent reasons: extraction out of complements introduced by the complementizer 'that' is generally prohibited in Russian. But (62), where one of the conjoined Wh-phrases belongs to the matrix clause, but the other one to the subordinated clause introduced by a different complementizer which does not block extraction, is grammatical:

(62) Kto<sub>i</sub> i čto]<sub>j</sub> e<sub>i</sub> xočet, čtoby ja delal e<sub>j</sub>?  
 who and what wants COMPI did  
 lit. Who and what wants that I do?

Obviously, the grammaticality of (62) cannot be accounted for if the conjoined Wh-phrases have to be generated in the Spec of "their" clause. Instead, (62) requires separate extraction of the two Wh-phrases belonging to different clauses into the matrix Spec of the CP. But given the mechanism of index percolation, none of these movements would be prohibited, because, as we have seen above, the resulting structure does not violate the ECP.

However, the proposed analysis gives rise to the following question: why the coordination of extracted Wh-phrases is prohibited, for example, in English. I would like to claim that to account for this, a parameter has to be set which characterises a language as either allowing or prohibiting coordination of A'-extractees. Specifically, in Russian coordination of A'-extractees is allowed, but in English it is not.

Interestingly, this parameter will not refer exclusively to Wh-extractees. It turns out that, on a par with Wh-phrases, Russian optionally allows coordination of negative pronouns taking different syntactic functions. Consider (63)-(64):

(64)Ja nikogo i nikuda ne posylal.  
 I nobody and nowhere NEG sent  
 I didn't send anyone anywhere.

(65)Ja nikomu i ničego ne skažu.  
 I nobody.DAT and nothing NEG will.say  
 I will not say anything to anybody.

Following Brown (2000), I will treat Russian negative pronouns not as NPIs, but rather as negative quantifiers which have to check off their [+negative] feature in the Spec of the NegP (or PolP), which is an A'-position. As shown by Brown, extraction of negative quantifiers into that Spec can take place either at the LF or in syntax. In the latter case, they take the preverbal position, as in (64)-(65). To account for the coordination in these examples, we will have to assume that extractees ending up in the Spec of the NegP (or PolP) also may be coordinated. Thus the proposed parameter appears to be more general: the Spec of the CP is not the only extraction site where coordination of extractees is allowed in Russian.

#### 4. Conclusion

In the present paper, I have argued that Russian allows coordination of Wh-phrases in multiple Wh-questions. Although, for reasons outlined in Section 2, this result looks very unwanted for the theory of grammar, I have claimed that the alternative analysis runs into serious problems and must be rejected. In Section 3 I have argued that coordination is obligatory for non-focused Wh-phrases, but impossible for focused Wh-phrases. This, as well as some observations regarding Superiority and order of Wh-phrases, suggests that there are two possible extraction sites for Wh-phrases in Russian: one for focused Wh-phrases, the other one for non-focused. The analysis based on this hypothesis was sketched in Section 3, but its more detailed elaboration of course needs more research.

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