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Restrictions on $wh$-adjunct movement in Serbian*

1. Introduction

This paper is an examination of $wh$-adjunct movement in the Serbian variety of Serbo-Croatian (SSC).¹ The goals are twofold: First, to present SSC long-distance $wh$-movement data that, as far as we know, have not received a formal analysis in the literature. We show restrictions on adjunct movement and ordering in long-distance vs. short-distance $wh$-movement. Second, we present an analysis that captures these restrictions without losing the benefits of previous analyses of short-distance $wh$-movement, such as Rudin (1988) and Bošković (1997a, 1998, 2003).

It has been widely noted in the literature that Serbo-Croatian (SC) is a multiple $wh$-movement language. In matrix questions the Superiority Condition is violated, and any $wh$-phrase order is allowed, as in (1). This ordering freedom also holds for adjuncts like $zašto$ ‘why’, which can appear in the first, second or third position among $wh$-phrases.²

(1) a. Ko je koga zašto istukao? [SC]
   who AUX whom why beaten
   ‘Who beat whom and why?’

   b. Ko je zašto koga istukao?
   c. Koga je ko zašto istukao?
   d. Koga je zašto ko istukao?
   e. Zašto je ko koga istukao?
   f. Zašto je koga ko istukao?

While ordering is free in SC short-distance multiple $wh$-movement, there are restrictions on adjunct positioning in long-distance multiple $wh$-movement. As illustrated in (2), a $wh$-adjunct ($wh$-adj) must appear to the left of a $wh$-argument ($wh$-arg).

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¹ Note that throughout this paper we refer to ‘Serbian Serbo-Croatian’ (SSC) when discussing the new data we present, but ‘Serbo-Croatian’ (SC) when reporting data presented elsewhere as Serbo-Croatian. We use ‘Serbian’ because all of our native informants are from Novi Sad, Serbia, and we suspect there are regional dialectal differences. We leave a much-needed comprehensive study of other varieties of Serbo-Croatian to future research.

² In all of the examples in (1) the focus is on the $wh$-phrase that comes first, i.e., it is the information that interests us the most.
Restriction #1: Adjuncts Must Appear to the Left of Arguments
a. \textit{Zašto koga tvrdiš} \[da je Marko istukao t t \]? [SSC] 
   why whom claim-2sg that AUX Marko beaten
   ‘Why do you claim that Marko has beaten whom?’

b. *\textit{Koga zašto tvrdiš} \[da je Marko istukao t t \]?

In addition, while adjuncts can front freely in short-distance \textit{wh}-movement regardless of the matrix verb, there is another restriction on long-distance \textit{wh}-movement, namely the familiar adjunct vs. argument asymmetry when extracting from non-factive vs. factive complements.\(^3\) Non-factive complements allow adjunct extraction (3a), but non-factive complements do not (3b).\(^4\)

Restriction #2: Factive Islands
a. \textit{Zašto tvrdiš} \[da si Nenadu dao knjigu t \]? [SSC] 
   why claim-2sg that AUX to-Nenad given book
   ‘Why do you claim that you gave a book to Nenad?’

b. *\textit{Zašto znaš} \[da si Nenadu dao knjigu t \]?
   why know-2sg that AUX to-Nenad given book
   ‘Why do you know that you gave a book to Nenad?’

Our goal in this paper is to propose an analysis of long-distance \textit{wh}-movement in SSC that accounts for the restrictions on adjunct movement in (2) and (3). The paper is organized as follows. In Section 2, we present previous analyses of multiple \textit{wh}-movement. While the analyses presented account nicely for short-distance multiple \textit{wh}-movement, they don’t say anything about the adjunct extraction data in (2) and (3). In Section 3, we examine the restriction in (3), that factive complement clauses are islands for adjunct extraction. We show that a previous analysis of Factive Islands (de Cuba 2006a) can account for this extraction asymmetry. An extra syntactic projection associated with non-factive predicates opens an escape hatch for adjunct extraction that is unavailable with factive predicates. In Section 4, we examine the restriction in (2), that long-distance extracted adjuncts must appear to the left of long-distance extracted arguments. We argue that adjunct and argument movement proceed in different manners, and this, coupled with the proposal for extra structure in Section 3, correctly predicts the word order facts in (2). In Section 5 we present a brief summary.

\(^3\) It is crucial to note that in all of the adjunct \textit{wh}-movement examples in this paper, the judgments given are with the \textit{wh}-adjunct construed with the embedded predicate, not the matrix predicate. In other words, all our examples are with the adjunct moving long-distance.

\(^4\) Two classes of Serbian factive verbs differ the complementizers they take. Emotive factive verbs like \textit{žališ} ‘regret’ take the complementizer \textit{što}, while semifactives like \textit{znaš} ‘know’ take \textit{da}. This difference in morphological form does not translate into a difference in extraction behavior, with (i) being ungrammatical like (3b).

(i) *\textit{Zašto žališ što si Nenadu dao knjigu t}?
   Why regret-2\textsuperscript{nd} that AUX to-Nenad given book
Both emotive and semifactive complements create factive islands. Non-factives consistently take the complementizer \textit{da} and allow adjunct extraction.
2. Previous Analyses of Multiple Wh-movement

Rudin (1988) proposes that there are two types of multiple wh-movement languages, the Bulgarian-type, illustrated in (4), and the SC-type, illustrated in (5) (Structures from Stjepanović (2003)).

(4) a.  [\text{CP} \text{koko} [\text{IP} \text{vižda?}]]  \quad \text{[Bu]}
   who whom sees
   ‘Who sees whom?’

   b.  *[\text{CP} \text{koko} [\text{IP} \text{vižda?}]]

(5) a.  [\text{CP} \text{kogo} [\text{IP} \text{vidi?}]]  \quad \text{[SC]}
   who whom sees
   ‘Who sees whom?’

   b.  [\text{CP} \text{kogo} [\text{IP} \text{ko} [\text{IP} \text{vidi?}]]]

Rudin argues that in Bulgarian-type languages, all wh-phrases are fronted to Spec-CP, as in (4a). The first wh-phrase moves to Spec-CP, and the others are right-adjoined to Spec-CP. The order of fronted wh-phrases in Bulgarian follows from the Superiority Condition. Chomsky’s (1973:246) original formulation of the condition, given in (6), accounts for the contrast between grammatical (4a) and ungrammatical (4b), which violates Superiority.

(6)  The Superiority Condition: No rule can involve X, Y in the structure
     … X … […] Z … -WYV […] … where the rule applies ambiguously to
     Z and Y, and Z is superior to Y. (The category A is superior to the
     category B if every major category dominating A dominates B as well
     but not conversely).

Rudin argues that in SC-type languages however, only the first wh-phrase moves to Spec-CP, and the rest are adjoined to IP, as in (5a). As shown in (5b), the Superiority Condition can be violated (as is also shown in (1)).

Following Rudin, Bošković (1997a, 1998, 2003) and Stjepanović (1998, 2003) argue that in SC short-distance multiple wh-movement, movement is adjunction to IP as opposed to movement to CP. This movement is not driven by a [+wh] feature, but by focus. Bošković (1998) argues that focus movement is insensitive to Superiority because the movement is driven by a strong feature on the wh-phrases, not by a strong feature on the target as in wh-movement. Therefore, there are no economy violations for different orders of focus movement (there are no ‘shorter moves’ to get all of the wh-phrases up, so whatever order the wh-phrases move to IP in is equally economical). This is in contrast to wh-movement to CP (driven by a [+wh] feature), which can be satisfied with a shorter move (movement of the closest wh-phrase is more economical). The free ordering in (1) thus results from focus movement.\(^5\)

\(^5\) Bošković (1997a, 1998, 2003) analyzes all movement of wh-phrases in (1) as focus movement to IP-adjoined positions. For him, any wh-movement to Spec-CP in SC would bring about Superiority effects, which would incorrectly predict ungrammaticality for (1c-f). An anonymous reviewer brought up the possibility that this would be a problem for clitic placement in (1c-f) if one assumes that second position clitics like je in SC are head adjoined.
Bošković (1997a, 1998, 2003) argues that in SC long-distance multiple wh-movement, Superiority effects arise whenever C is overt. This can be observed in long-distance questions (7), embedded question contexts (8), and matrix questions with an overt complementizer (9).  

(7) **Superiority in Long-distance MWM**  
   a. \( \text{Ko koga tvrdiš [da je istukao?] } \)  
      who whom claim-2sg that AUX beaten  
      ‘Who do you claim beat whom?’  
   b. \( * \text{Koga ko tvrdiš [da je istukao?] } \)  
      (Bošković, 1997a:5)  

(8) **Superiority in Embedded contexts**  
   a. \( \text{Ima ko šta da ti proda. } \)  
      has who what that you sells  
      ‘There is someone who can sell you something.’  
   b. \( * \text{Ima šta ko da ti proda. } \)  
      (Stjepanović, 2003:4, citing Bošković)  

(9) **Superiority in Root questions with overt C**  
   a. \( \text{Ko li šta kupuje? } \)  
      who C what buys  
      ‘Who on earth buys what?’  
   b. \( * \text{Šta li ko kupuje? } \)  
      (Stjepanović, 2003:4, citing Bošković)  

Bošković argues SC is like French, which has wh-in-situ. This wh-in-situ is only mandatory under certain conditions, namely when C is overt. In (7) and (8) C is overtly filled by the complementizer \( \text{da} \), while in (9) C is overtly filled by the complementizer \( \text{li} \). Thus, SC only obeys Superiority in conditions where French would have obligatory wh-movement.

A Bošković-style analysis accounts well for the superiority facts above. However, Bošković does not discuss the adjunct data in (2) and (3). In the next section, we examine Restriction #2 (Factive Islands), and then return to Restriction #1 (adjunct ordering in long distance multiple wh-movement) in section 4.

3. **Restriction #2: The Factive vs. Non-factive Asymmetry**

The first restriction on adjunct movement that we shall consider was given in (3), and is repeated here as (10). Adjuncts cannot be extracted from factive complement clauses.

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Note that the judgments in sentences like (7) do not hold for our informants, who either did not accept long-distance multiple wh-movement at all, or accepted both (7a) and (7b) as grammatical. For those who do accept long-distance multiple wh-movement, the inverted order of wh-phrases it is just a matter of different focus. We leave this interesting case of microvariation to future work.
Restriction #2: Factive Islands

a. *Zašto tvrdiš [da si Nenadu dao knjigu t]?
   Why do you claim that you gave a book to Nenad?

b. *Zašto znaš [da si Nenadu dao knjigu t]?
   Why do you know that you gave a book to Nenad?

The restriction in (10) is a familiar one, mirroring the Factive Island data from Mainland Scandinavian languages (among others) in (11) and (12).

Non-factives – adjunct extraction OK

a. Hur tycker du [CP att du uppträdde t]?
   How think you that you behaved

b. Hvordan tror du [CP at du oppførte deg t]?
   How think you that you behaved

c. Hvordan synes du [CP at du opførte dig t]?
   How think you that you behaved

d. How do you think [CP that you behaved t]?

Factive Islands - adjunct extraction BAD

a. *Hur ångrar du [CP att du uppträdde t]?
   How regret you that you behaved

b. *Hvordan angrer du [CP at du oppførte deg t]?
   How regret you that you behaved

c. *Hvordan fortryder du [CP at du opførte dig t]?
   How regret you that you behaved

d. *How do you regret [CP that you behaved t]?

To account for the restriction in (10), we appeal to a previous analysis of English and Mainland Scandinavian Factive Islands presented in de Cuba (2006a). In this analysis, which we apply to SSC Factive Islands in this section, adjunct extraction from non-factive complements is allowed by the presence of an extra syntactic projection in the CP-field. We provide motivation for this extra structure in Sections 3.1 and 3.2, and show how this extra structure allows for adjunct extraction in Section 3.3.

3.1. Evidence for Extra Structure Associated with Non-factives

Kiparsky & Kiparsky (1971) provide the classic analysis of factive and non-factive clausal complementation. For them, factives are associated with an extra syntactic projection that is not present under non-factives (an NP with the head noun *fact*). However, a growing number of researchers are exploring the idea that the opposite holds: that it is actually non-factives that have more complex syntactic structure associated with their complements, not factives (Haegeman 2006; McCloskey 2005; de Cuba & Ürögdi 2001; de Cuba 2002, 2006a, 2006b, forthcoming). The structures for non-factive and factive
complementation respectively proposed by de Cuba (2006a, 2006b) are given in (13) and (14).\textsuperscript{7}

\begin{equation}
(13) \quad \text{VP} \quad \text{V'} \quad \text{cP} \\
\quad \text{non-factive verb} \quad \text{CP} \\
\quad \text{[OP]} \quad \text{TP}
\end{equation}

\begin{equation}
(14) \quad \text{VP} \quad \text{V'} \quad \text{CP} \\
\quad \text{factive verb} \quad \text{TP}
\end{equation}

Evidence for the existence of an extra layer of syntactic structure (\(cP\)) in the CP-field selected by non-factive predicates comes from Mainland Scandinavian (MSc). In Swedish, a verb-second language, embedded clauses typically do not have verb-second order, as illustrated in the examples in (15), where the finite verb appears in third position (following negation). However, embedded verb-second (EV2) is allowed under non-factive predicates, as in (16a), but not under factives, as in (16b). EV2 is optional in MSc.

\begin{equation}
(15) \quad \text{a. } \text{Rickard sa [att han inte var hemma].} \quad \text{[Sw]} \\
\quad \text{Rickard said that he not was home} \\
\quad \text{‘Rickard said that he was not home.’} \\
\quad \text{b. } \text{Rickard ångrade [att han inte var hemma].} \\
\quad \text{Rickard regretted that he not was home} \\
\quad \text{‘Rickard regretted that he was not home.’}
\end{equation}

\begin{equation}
(16) \quad \text{a. } \text{Rickard sa [att han var inte hemma].} \quad \text{[Sw]} \\
\quad \text{Rickard said that he was not home} \\
\quad \text{‘Rickard said that he was not home.’} \\
\quad \text{b. } \text{Rickard ångrade [att han var inte hemma].} \\
\quad \text{Rickard regretted that he was not home} \\
\quad \text{‘Rickard regretted that he was not home.’}
\end{equation}

EV2 in MSc has also been analyzed as involving CP-recursion (see Vikner 1995; Holmberg & Platzack 1995; and Iatridou & Krophic 1992; among others). The two CP layers are needed to account for EV2 movement (widely analyzed as involving verb movement to the C head, and XP movement to Spec CP) in the presence of an overt complementizer (analyzed as residing in the head of the higher CP in the recursive structure). The structures proposed by de Cuba in (13) and (14) accommodate this movement. Only in the non-factive

\textsuperscript{7} For arguments against a Kiparsky & Kiparsky-style analysis of factives vs. non-factives and in favor of the Haegeman/McCloskey/de Cuba/de Cuba & Úrögdi view, see de Cuba (forthcoming).
structure in (13) is EV2 possible, with the overt complementizer in cP, and classic V2 movement to CP. The factive structure in (14) does not have the extra CP-field position to accommodate both the complementizer and V2 movement, ruling out (16b).

De Cuba (2006a, 2006b) presents data from Hungarian to further support the hypothesis that there is extra structure in non-factive constructions. The pronoun *azt* appears in non-factive constructions like (17a), but is not available in factive constructions like (17b).

(17) a.  Azt * hiszem [cP tazt [CP hogy Mari okos.]] [Hu]
       it-ACC I-think that Mary smart-is
       'I think that Mary is smart.'

b.  (*Azt) *sajnálom [cP hogy Mari okos.]
       it-ACC I-regret that Mary smart-is
       'I'm sorry that Mary is smart.'

In (17a), *azt* represents the object of the matrix verb, which is the embedded CP. The fact that *azt* bears accusative case provides evidence that it originates as an argument of the matrix verb. De Cuba argues that *azt* originates in cP, which explains why it is available in (17a) but not (17b). We take the Swedish and Hungarian data in this section as evidence for a more complex structure for non-factive complements (contra Kiparsky & Kiparsky), as proposed in (13).

3.2. McCloskey (2005): The Adjunction Prohibition

McCloskey (2005) also argues for a more complex CP-field structure under non-factives as opposed to factives. He shows that unlike in Standard English (SE), Subject Auxiliary Inversion is possible in Irish English (IE) polar questions (18a) and wh-questions (18b). However, as example (18c) shows, Subject Auxiliary Inversion, a case of T-to-C movement, is not available under factive predicates.

(18)  a.   I wondered was he illiterate.     [IE]
       b.   I wonder what is he like at all.
       c.       *I found out how did they get into the building.

The examples in (18) show that T-to-C movement is possible under *wonder* and *ask* type predicates, but ruled out under factive predicates.

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8 We use the terms ‘factive’ and ‘non-factive’ loosely here. For arguments that the factive/non-factive distinction is not the correct one, see de Cuba (forthcoming). For the present discussion, the terms will suffice.
9 If the sentences have neutral intonation, then factive predicates do not allow *azt*, while non-factives do. However, if *azt* is in contrastive focus position and heavily stressed, it is grammatical, as in (i) (Enikő Tóth, Barbara Ürödí, p.c.).
   (i) AZT *sajnálom, hogy Mari meghibókott a vizsgán.
       it-ACC I-regret that Mary failed the exam
       ‘It’s that Mari failed the exam that I’m sorry for.’

We abstract away from cases of contrastive focus.
10 For an analysis along these lines, see Lipták (1998), as discussed in Kiss (2002:234-5).
11 Examples (18) through (23) are taken from McCloskey (2005).
Corresponding to the instances of embedded T-to-C in (18) we find instances of adjunction of adverbials to CP. For the wonder/ask class of matrix predicates, the results are either good or only marginally unacceptable in Standard English, as in (19a). For the varieties that allow embedded T-to-C, the corresponding examples are completely grammatical, as in (19b). However, factive predicates, which completely disallow the option of embedded T-to-C, also completely disallow the option of adjunction of an adverbial phrase to their CP-complement (19c).

(19) a. ?Ask your father [CP when he gets home [CP if he wants his dinner]]].
   b. Ask your father [CP when he gets home [CP does he want his dinner]]].
   c. *It was amazing [CP while they were out [CP who had got in to their house].

The examples in (18) and (19) show that there is a clear pattern between adjunction on the one hand, and Subject Auxiliary Inversion on the other. Under wonder/ask predicates, both CP-adjunction and Subject Auxiliary Inversion are allowed, while under factive predicates both CP-adjunction and Subject Auxiliary Inversion are prohibited. Given this pattern, McCloskey (2005), following Chomsky (1986), formulates the Adjunction Prohibition, stated in (20).

(20) The Adjunction Prohibition: Adjunction to a phrase which is s-selected by a lexical (open class) head is ungrammatical.

To solve the problem of the apparent cases of adjunction to a lexically selected CP, McCloskey proposes that both adjunction to CP (as in (19a) and (19b)) and Subject Auxiliary Inversion (as in (18a) and (18b)) are possible under wonder/ask type predicates because they select a recursive CP structure. The structure McCloskey (2005:20) provides is in (21). Since CP2 is not lexically selected by the verb wonder in (21), it is not subject to the Adjunction Prohibition. This allows Subject Auxiliary Inversion, with should raising to C2.

(21) I wonder what should we do. [IE]

12 Note that example (19b) displays both adjunction to CP and Subject Auxiliary Inversion.
Following the Adjunction Prohibition, which allows adjunction to a non-lexically selected phrase, the grammaticality of (19a) and (19b) is now explained. In all these cases, the structure of the wonder/ask predicate is as in (21), leaving the lower CP open to adjunction.\(^{13}\)

The similarity between McCloskey’s structure for wonder/ask predicates in (21) and our proposed structure for non-factive predicates in (13), repeated below as (22), should be immediately apparent.

\[
\text{(22)} \quad \text{VP} \quad \text{V}^\prime \quad \text{cP} \\
\text{non-factive verb} \quad \text{CP} \quad \text{[OP]} \quad \text{TP}
\]

In both cases a CP is selected by a functional head (C1 in (26), c in (27)), as opposed to a lexical head. Evidence for the structural similarity of wonder/ask predicates and non-factive predicates comes from another variety of English. McCloskey (2005:40, citing Henry, 1995) presents data from Belfast English (BE), where Subject Auxiliary Inversion takes place in the complement of a non-factive triggered by wh-movement (23).

(23)  
\[
\begin{align*}
a. & \quad \text{They wouldn’t say which candidate they thought} & \text{[BE]} \\
& \quad \text{[CP should we hire].} \\
\text{b.} & \quad \text{I’m not sure which one I think} & \text{[CP should we buy].}
\end{align*}
\]

Here we see Subject Auxiliary Inversion taking place under the non-factive predicate think, just as we have seen it under wonder/ask predicates in the IE examples in (18a) and (18b). We take McCloskey’s data as more evidence that there is extra structure associated with non-factive constructions.

3.3. De Cuba (2006a): Factive Islands

Given the discussion in Sections 3.1 and 3.2, we assume the basic structures for non-factive and factive clausal complementation given in (24). Following the Adjunction Prohibition in (20), only in the case where there is a cP buffer between VP and CP, as in (24a), can we get adjunction.

(24)  
\[
\begin{align*}
a. & \quad \text{[VP believe [CP [CP …]]]} \\
\text{b.} & \quad \text{[VP regret [CP [CP …]]}
\end{align*}
\]

This proposed structural difference is matched by a difference in extraction possibilities from non-factive versus factive complements. While argument

\(^{13}\) McCloskey argues that both head movement to C and adjunction to CP affect selection. In other words, selection is context sensitive. In the case where a lexical head (the verb in the cases we have been looking at) directly selects a CP, adjunction to that CP or head movement of a lower verb to the head of that CP will change its nature, so the selecting verb will not recognize the CP and selection will fail. For details see McCloskey (2005).
extraction is fine out of both non-factives (25a) and factives (26a), adjunct extraction is only possible from non-factives (25b), and not factives (26b).

(25) non-factive constructions
   a.  What did John believe \[cp \[cp that Mary ate \]]?             (arg)
   b.  Why did John believe \[cp \[cp that Mary ate the apple \]]? (adj)

(26) factive constructions
   a.  What did John regret \[ cp \[cp that Mary ate \]]?          (arg)
   b.       *Why did John regret \[cp that Mary ate the apple \]]?        (adj)

De Cuba (2006a) claims that argument movement, as in (25a) and (26a), proceeds through Spec-CP (as is standardly assumed). However, he proposes that adjunct movement, as in (25b) and ungrammatical (26b), proceeds through CP Adjunction, not Spec-CP.

(27) Argument movement – Through Spec-CP
    Adjunct movement – Through CP Adjunction

The proposal in (27), combined with the Adjunction Prohibition in (20), provides a solution to the Factive Island problem. Why-extraction in (26b) is ruled out by the Adjunction Prohibition. No adjunction to CP is allowed in (26b), so the wh-adjunct is not able to reach the edge of the phase. In the non-factive case in (25b), a functional head (c) selects CP, so adjunction to CP is available, giving an escape hatch to the adjunct.14

The analysis of Factive Islands transfers smoothly to the Serbian facts. The basic structure in (24) translates directly into Serbian in (28).

(28) a.  \[vp tvrdiš \[cp \[cp \[\ldots \]]\]]               \[ssc\]
   b.  \[vp znaš \[cp \[\ldots \]]\]

We see the explanation for the extraction asymmetry when we apply the structures in (28) to the sentences in (29).

(29) Restriction #2: Factive Islands
    [ssc]
   a.  Zašto tvrdiš \[cp \[t \[cp da \[si \[Nenadu \[dao \[knjigu]\]\]\]\]\]\]\]?
       why claim-2sg that AUX to-Nenad given book
       ‘Why do you claim that you gave a book to Nenad?’
   b.  *Zašto znaš \[*cp t \[cp da \[si \[Nenadu \[dao \[knjigu]\]\]\]\]\]\]\]?
       why know-2sg that AUX to-Nenad given book
       ‘Why do you know that you gave a book to Nenad?’

Adjunct extraction in (29b) is ruled out because CP is lexically selected by znaš ‘know’, ruling out adjunction to CP and leaving the adjunct with no escape hatch (cP cannot be selected in (29b), indicated by ‘*’). Adjunct extraction in (29a) is fine, given that tvrdiš ‘claim’ does not lexically select CP, making adjunction to CP possible, allowing the adjunct zašto to reach the

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14 We assume that cP is an extension of the CP edge, so the Spec and head of CP remain at the edge of the phase, and thus remain active for further syntactic derivation. For details see de Cuba (forthcoming).
edge of the phase and then move out. We can see that the same restriction holds for different adjuncts and other factive and non-factive verbs in SSC.

(30)  a.  *Kada *misiš $[\text{CP } t_{\text{kada}} [\text{CP da si } \text{Nenadu dao } \text{knjigu}]]$?

When think-2sg AUX to-Nenad given book

‘When do you think that you gave a book to Nenad?’

b.  *Kada *shvataš $[\text{CP } t_{\text{kada}} [\text{CP da si } \text{Nenadu dao } \text{knjigu}]]$?

When realize-2sg AUX to-Nenad given book

‘When do you realize that you gave a book to Nenad?’

(31)  a.  Gde *prepostavljaš $[\text{CP } t_{\text{gde}} [\text{CP da je } \text{Marko otišao}]]$?

Where suppose-2sg AUX Marko left

‘Where do you suppose that Marko left?’

b.  *Gde *saznaješ $[\text{CP } t_{\text{gde}} [\text{CP da je } \text{Marko otišao}]]$?

Where find out-2sg AUX Marko left

‘Where did you find out that Marko left?’

We now turn to the first restriction on adjunct extraction from the introduction, the restriction on adjunct ordering in long-distance wh-movement.

4. Restriction #1: Adjunct-ordering in long-distance multiple wh-mvt

While wh-adjunct extraction is possible from non-factive complements in Serbian, ordering restrictions exist, in contrast to the free wh-phrase ordering in short-distance multiple wh-movement shown in (1). As was shown in (2), repeated here as (32), a long-distance-extracted wh-adjunct must appear to the left of a wh-argument. Further examples are given in (33) and (34).

(32)  Restriction #1: Adjuncts Must Appear to the Left of Arguments

a.  Zašto koga tvrdiš $[\text{da je } \text{Marko istukao t t }]$? [SSC]

Why whom claim-2sg AUX Marko beaten

‘Why do you claim that Marko has beaten whom?’

b.  *Koga zašto tvrdiš $[\text{da je } \text{Marko istukao t t }]$?

(33)  a.  Kada koga misliš $[\text{da je } \text{Marko istukao t t }]$? [SSC]

When whom think-2sg AUX Marko beaten

‘When do you think that Marko has beaten whom?’

b.  *Koga kada misliš $[\text{da je } \text{Marko istukao t t }]$?

15 Our informants either found both examples like (32a&b) ungrammatical (4 out of 9), or they accepted (32a) with the wh-adjunct preceding wh-argument and rejected (32b) with wh-argument preceding wh-adjunct (5 out of 9). In the variety of Serbo-Croatian reported by Bošković (1997a:6), the opposite judgments hold. In addition, Nadira Aljović (p.c.) reports that in her variety, long-distance argument movement and long distance adjunct movement, while independently available, are incompatible in the same sentence. For her, (32a) and (32b) are both out, as in both cases an argument and an adjunct move long-distance in the same sentence. At the moment we have no explanation for this fact. We unfortunately must restrict ourselves here to a discussion of the Novi Sad variety here, and again leave important microvariation work to the future.
(34) a. *Gdje ste ko tvrdili [da je zaspao?] [SSC]
   where are who claimed that AUX fallen-asleep
   ‘Who did you claim fell asleep where?’
   
   b. *Ko ste gdje tvrdili [da je zaspao?]

Following the analysis laid out in this paper, CP-Adjunction is possible in
embedded clauses only when cP is present between V & CP (due to the
Adjunction Prohibition). If the wh-phrases must move through the CP-field to
escape to a higher clause, then one would expect a wh-adjunct adjoined to CP
to appear to the left of a wh-argument in Spec-CP. So, the order in (35) is
predicted.\(^{16}\) This prediction is borne out in (32) through (34). The structure of
(32) is given in (36).

(35) wh-adj > wh-arg

(36) [CPadjoined Zašto [SpecCP koga [VP tvrdiš [cP [CPadjoined t [SpecCP t [c da ]
   why whom claim-2sg twhy twhom that
   je Marko istukao ]]]]]]
   AUX Marko beaten

We see that the adjunct zašto ‘why’ is adjoined to the embedded CP, and is
then able to escape and move to the matrix CP. The argument koga ‘whom’
moves through the Spec of the embedded CP on its way to the matrix Spec of
CP. In both cases, the adjunct is in a higher position than the argument.

The ‘adjunct on top’ pattern remains consistent if we add another
wh-arg for long-distance extraction. Only (37a) and (37b), with the adjunct in the
leftmost position, are grammatical.

(37) a. Zašto ko koga tvrdiš [da je istukao]? [SSC]
   why who whom claim-2sg that AUX beaten
   ‘Who did you claim beat whom, and why?’
   
   b. Zašto koga ko tvrdiš [da je istukao]?
   c. *Ko koga zašto tvrdiš [da je istukao]?
   d. *Ko zašto koga tvrdiš [da je istukao]?
   e. *Koga zašto ko tvrdiš [da je istukao]?
   f. *Koga ko zašto tvrdiš [da je istukao]?

We adopt a multiple Spec-CP analysis to explain the availability of two
argument positions in (37a), and follow the proposal of de Cuba (2006a) that all
wh-arguments movement proceeds through Spec-CP positions when

\(^{16}\) There is another restriction on adjuncts that has come to out attention. Two adjuncts do not
seem to be able to be extracted out of an embedded clause:

(i) *Zašto kada tvrdiš da je Marko istukao Milana t t?
   Why when claim-2sg that AUX Marko beaten Milan
(ii) *Kada zašto tvrdiš da je Marko istukao Milana t t?
   When why claim-2sg that AUX Marko beaten Milan

However, this is also the case in short-distance wh-movement, as (iii) is also bad.

(iii) *Gde kada idemo na more?
   where when go-3p.pl. on seaside

Conjoining the adjuncts with ‘and’ fixes examples (i) through (iii). At present we have no
explanation for this restriction on multiple adjunct extraction.
undergoing ‘true’ wh-movement. Both arguments must be in Spec-CP positions beneath the adjunction of zašto ‘why’ in (37a). The structure of (37a) is given in (38).

(38) [CPadjoined Zašto [SpecCP ko [SpecCP koga [VP tvrdiš [cP [CPadjoined t [SpecCP t
why who whom claim-2sg twhy twho
[SpecCP t [c da] je istukao ]]]]]?
twhom that AUX beaten

Adjunction to a CP will still put the wh-adjunct in the highest position, above any/all Spec positions. Examples (37c) through (37f) are therefore ruled out.

5. Conclusion

In this paper we examined long-distance wh-movement in the Serbian variety of Serbo-Croatian (SSC) and showed that unlike in short-distance wh-movement, there are restrictions on adjunct movement and placement. First, both wh-arguments and wh-adjuncts can be extracted from non-factive clausal complements, but only wh-arguments can be extracted from under factives. We follow the analysis of Factive Islands in de Cuba (2006a), which accounts for the restriction on wh-adjunct extraction from factive clausal complements in SSC. Second, we showed that there are restrictions on wh-adjunct ordering in long-distance vs. short-distance multiple wh-movement in SSC. In contrast to the free wh-phrase ordering in short-distance multiple wh-movement, wh-adjuncts must appear to the left of wh-arguments in long-distance multiple wh-movement. Following the analysis laid out in this paper, CP-adjunction is only possible in embedded clauses when CP is present between V & CP (only under non-factive predicates). We argue that wh-phrases must move through the CP-field to escape to a higher clause, and thus correctly predict that a wh-adjunct adjoined to CP should appear to the left of a wh-argument in Spec-CP.

17 The analyses of wh-movement in SC in Rudin (1988) and Bošković (1997a) do not seem to be compatible with phase theory (Chomsky 2000, 2001), as in both of their analyses only one wh-phrase (the highest) moves to CP in SC, while the others are IP adjoined in the embedded clause and the matrix clause (of course their analyses predate phase theory). Rudin (1988) proposes that there is a binary Multiply Filled Specifier [+/-MFS] feature. SC is analyzed as being a [-MFS] language, while Bulgarian is a [+MFS] language. In Rudin’s analysis, only one wh-phrase can move to Spec-CP in SC (the rest are in IP), while in Bulgarian all wh-phrases move to Spec-CP (the first to Spec-CP, the rest right-adjoined to Spec-CP). Rudin was working with the assumption that in SC, long-distance multiple wh-extraction is not possible. However, Bošković (1997a, and subsequent works) and the present paper have shown that it is in fact possible. For Bošković (1997a), when there is no overt C all wh- phrases are IP-adjoined, and when there is an overt C only one wh-phrase moves to CP to check the wh-feature there. If only one wh-phrase moves to CP, then we would expect that only that wh-phrase would be able to extract. However, Bošković (1997b) opens up the possibility that in SC, either interrogative C or I (‘Agr’ in the split-INFL structure of the time) can focus license wh-phrases. If this is the case, then focus-movement to CP would allow all of the long-distance wh-phrases to reach the edge of the phase for movement out of the embedded clause. The question then arises, is focus movement to CP to Spec positions or by adjunction? De Cuba (2006a) claims that adjuncts will always proceed up the tree by adjunction, and arguments through Spec positions. Given that we are following this analysis, for us SC must also be a [+MFS] language. If the Bošković (1997b) focus-movement to CP were to be adjunction, then we would lose the adjunct vs. argument positional asymmetry that allows us to account for the pattern in (37).
Our analysis captures these restrictions on wh-adjunct movement without losing the benefits of previous analyses of short-distance wh-movement. Bošković (1997a, 1998, 2003) and Stjepanović (1998, 2003) argue that in SC short-distance multiple wh-movement, movement is adjunction to IP as opposed to movement to CP. Their claim that this movement is not driven by a [+wh] feature but by focus is compatible with our claims about long-distance multiple wh-movement. However, more work on microvariation across varieties of Serbo-Croatian is needed in order to get a fuller picture of wh-adjunct extraction possibilities.

References

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