

On certain differences between Bulgarian and Serbo-Croatian C(P)

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The goal of this paper is to provide a uniform account of some previously unrelated differences between Bulgarian and Serbo-Croatian (SC). I will show that my proposal that Bulgarian but not SC interrogative C is a PF verbal affix provides a uniform account of the different behavior of Bulgarian and SC with respect to Subject-Verb inversion in questions, Superiority effects, and the availability of single-pair answers for multiple questions. In section 1 of the paper I lay out the differences between Bulgarian and SC that this paper is concerned with. In section 2 I provide an account of these differences.

1. C as a PF affix

1.1. Subject-Verb Inversion

Kraskow (1994) observes that Bulgarian and SC exhibit different behavior with respect to Subject-Verb inversion in questions. While Bulgarian requires it, SC does not (see also Izvorski 1993 for discussion of Bulgarian.)

- (1) a.*Kakvo toj dade na Petko? (Bulgarian)
what he gave to Petko
'What did he give to Petko?'

b. Kakvo dade toj na Petko

c. Šta on dade Ivanu? (SC)

what he gave Ivan.dat

d. Šta dade on Ivanu?

1.2. Superiority effects

Bulgarian and SC are multiple wh-fronting (MWF) languages--they front all wh-phrases in questions. Rudin (1988) shows that Bulgarian and SC differ with respect to the order of fronted wh-phrases. While in SC (2c-d) the fronted wh-phrases are freely ordered, in Bulgarian (2a-b) the nominative wh-phrase has to precede the accusative wh-phrase, which has been successfully analyzed in the literature in terms of Superiority.¹

(2) a. Koj kakvo kupuva? (Bulgarian)

who what buys

‘Who is buying what?’

b. *Kakvo koj kupuva?

c. Ko šta kupuje? (SC)

who what buys

d. Šta ko kupuje?

1.3. Interpretation of multiple questions

Wachowicz (1974) observes that a pair-list answer is obligatory in English questions such as (3).

(3) Who bought what?

(3) cannot be felicitously asked in the following situation: John is in a store and in the distance sees somebody buying an article of clothing, but does not see who it is and does not see exactly what the person is buying. He goes to the sales clerk and asks (3).

Interestingly, as noted in Bošković (1999), Bulgarian and SC exhibit different behavior with respect to this phenomenon. Bulgarian patterns with English in that (4) requires a pair-list answer. Significantly, SC (5) can have either a pair-list or a single-pair answer.

(4) Koj kakvo e kupil? (Bulgarian)

who what is bought

‘Who bought what?’

(5) Ko je šta kupio? (SC)

who is what bought

1.4. Analysis

1.4.1. Subject-Verb Inversion in the-C-as-a-PF-affix analysis

I will show that the above differences between Bulgarian and SC all follow from a simple lexical difference in interrogative C in Bulgarian and SC: Bulgarian but not SC C is lexically specified as

a PF verbal affix. The different behavior of Bulgarian and SC with respect to inversion straightforwardly follows from this difference. Since Bulgarian interrogative C is a verbal affix it must be adjacent to a verb. This is not the case with SC, where interrogative C is not a verbal affix. The contrast between (1a) and (1c) follows immediately.

The ungrammaticality of (1a) is especially significant in light of the fact that Subject-Verb inversion in Bulgarian is not a result of V-movement to C (the movement would proceed via I), as shown in Izvorski (1993). Thus, Izvorski observes that if Bulgarian were to have I-to-C movement in questions, (6a) should be acceptable, like English *What had Maria forgotten about*. Also, the adverb in (7b) would have both the low, manner reading, and the high, subject-oriented adverb reading, just like the adverb in (7a) and English constructions of this type. (Izvorski gives *What did John carefully read*.) Based on these data, Izvorski concludes that Bulgarian questions do not involve I-to-C movement. A simple structural explanation of the adjacency effect in (1a-b) (there is not enough space between the wh-phrase in SpecCP and the verb in C to insert the subject) is therefore not available.

(6) a. *Za kakvo beše Maria zabravila?

about what was Maria forgotten

‘About what had Maria forgotten?’

b. Za kakvo beše zabravila Maria?

c. *Za kakvo Maria beše zabravila?

d. Maria beše zabravila za sreštata.

Maria was forgotten about meeting-the

(7) a. Petko pravilno odgovori na vŕprosa im.
Petko correctly answered to question-the they.dat
'Petko did the right thing in answering their question.'
'Petko gave a correct answer to their question'

b. Na kakvo odgovori Petko pravilno?
to what answered Petko correctly
'*What was Petko right to answer?'
'What did Petko give a correct answer to?'

In Bošković (in press) I analyze the adjacency effect in terms of affix hopping (see Bobaljik 1995, Chomsky 1957, Halle and Marantz 1993, and Lasnik 1995): C undergoes affixation to V, located within split I, through affix hopping in PF under adjacency. Under this analysis, the data in question are accounted for as follows: the subject moves from inside the VP to SpecIP in all the constructions in (6)-(7). The finite verb follows the subject in SpecIP, being located somewhere in the split I. In (6d) and (7a), the subject is pronounced in the highest position created by its movement. However, this pronunciation is not possible in (6a-c) and (7b). If the subject is pronounced in SpecIP, as in (6c), it intervenes between interrogative C, a verbal affix, and the verb. As a result, the PF affix requirement on interrogative C cannot be satisfied. To satisfy the requirement, the subject is pronounced in a lower position in line with Franks's (1998) proposal (see also Bošković and Franks this volume) that pronunciation of lower copies of non-trivial chains is possible if this is necessary to avoid a PF violation (see Bobaljik 1995 for a similar analysis of Scandinavian object shift). As a result, the subject follows the participle in (6b) and the adverb, which follows the subject, can have

only the low, manner reading in (7b). (To have the high, subject-oriented adverb reading, the adverb would have to precede the verb. Notice that I assume that no copy of the subject is present between the auxiliary and the participle, which undergoes overt movement outside of its VP, as discussed in Bošković 1997b and Izvorski 1993.)²

(8) a. [_{CP} Za kakvo C [_{IP} ~~Maria~~ beše zabravila Maria]]

|_____|

b. [_{CP} Na kakvo C [_{IP} ~~Petko~~ odgovori Petko pravilno]]

|_____|

The PF affix analysis also provides a straightforward account of the contrast between (1a) and (9).

(9) Dali toj dade na Petko knjigata?

Q he gave to Petko book-the

‘Did he give Petko the book?’

Complementizer *dali* is clearly not a verbal affix. It is a prosodic word bearing stress and therefore is not expected to be subject to the adjacency requirement the null C is subject to under the current analysis.

1.4.2. Superiority effects and wh-movement in Bulgarian and Serbo-Croatian

Before demonstrating how the different behavior of Bulgarian and SC with respect to Superiority follows from the different status of interrogative C in the two languages with respect to PF affixhood, a few remarks are in order concerning wh-movement and lexical insertion in the Minimalist Program. It is standardly assumed in the Minimalist Program that wh-movement in English takes place to check the strong +wh-feature of C. (From now on, I will use the term wh-movement to refer only to fronting of wh-phrases motivated by checking the strong +wh-feature of C). I assume that, as in English, interrogative C in Bulgarian and SC has a strong +wh-feature. Furthermore, I assume Chomsky's (1995) virus theory of strength, where strong features are defined as elements that cannot be tolerated by the derivation and therefore have to be eliminated from the structure through checking immediately upon insertion.

Consider now the status of lexical insertion or, more formally, Merger, in the Minimalist Program. Merger generally takes place in overt syntax. Chomsky (1995) observes that this follows without a stipulation. Thus, if an NP such as *John* is inserted in LF the derivation would crash because LF cannot interpret the phonological features of *John*. If, on the other hand, *John* is inserted in PF, PF would not know how to interpret the semantic features of *John*. The only way to derive a legitimate PF and a legitimate LF is for *John* to be inserted before S-Structure is reached. PF will then strip off the phonological features of *John* and the semantic features of *John* will proceed into LF. This line of reasoning allows lexical insertion to take place in PF and LF under certain conditions. To be more precise, it allows PF insertion of semantically null lexical elements and LF insertion of phonologically null elements. Focusing on the latter possibility, I propose in Bošković (1997a, 2000b) that this is what happens with interrogative C in SC questions. Since it is phonologically null nothing prevents it from entering the structure in LF. Under this analysis, SC

constructions in (2) can be bare IPs in overt syntax. Interrogative C would then be inserted in LF, which would be followed by LF wh-movement, driven by checking the strong +wh-feature of C.³ Significantly, the LF C-insertion derivation is ruled out in Bulgarian because although phonologically null, Bulgarian interrogative C has phonological information in its lexical entry, namely the PF verbal affix specification, which is uninterpretable in LF. The C then has to enter the structure overtly in Bulgarian so that PF can strip off the phonological information from its lexical entry and subsequently satisfy its PF requirement. What we see here is that as a result of a different specification of SC and Bulgarian C with respect to PF affixhood, Bulgarian questions must involve overt wh-movement, while SC questions do not have to involve overt wh-movement. The seemingly different behavior of wh-movement in the two languages with respect to Superiority can then be easily explained. Since the SC questions in (2) do not have to involve wh-movement, they do not exhibit Superiority effects. Since the Bulgarian questions in (2) must involve wh-movement they exhibit Superiority effects. Under this analysis, wh-movement in Bulgarian and SC is well behaved with respect to Superiority--whenever wh-movement takes place we get Superiority effects.

Obviously, even the wh-phrases that do not undergo wh-movement in Bulgarian and SC still must be fronted overtly. Clearly, fronting of the wh-phrases in (2) cannot all be motivated by checking the strong +wh-feature of C, which is the motivation for wh-movement in English. If this were the case, only one wh-phrase in each of (2a-d) would be fronted, since this would suffice to check the strong +wh-feature of C, as in the English counterpart of (2). However, as shown in (10)-(11), all wh-phrases must front in Bulgarian and SC.⁴

(10) ?*Ko kupuje šta? (SC)
who buys what

(11) *Koj kupuva kakvo? (Bulgarian)
who buys what

In fact, as noted in Bošković (1997a, 2000a), even echo wh-phrases must move in Bulgarian and SC. Thus, (10) and (11) are unacceptable even as echo-questions. (12)a-b are also unacceptable even as echo questions, which confirms that wh-phrases in Bulgarian and SC must front for reasons independent of the strong +wh feature of C.

(12) a. ?*Jovan kupuje šta?
John buys what
b. ?*Ivan kupuva kakvo?
Ivan buys what

In Bošković (2000a) I argue that the driving force of wh-fronting in SC and Bulgarian that is not motivated by checking the strong +wh-feature of C is focus. In other words, wh-phrases in SC and Bulgarian must undergo overt focus movement. (For focus movement analyses of MWF in various Slavic and Balkan languages, see also Göbel 1998, Izvorski 1993, Lambova 2000, Stepanov 1998, and Stjepanović 1999). As discussed in Bošković (1999), pure focus movement of wh-phrases is not sensitive to Superiority. Thus, SC (2a-b), which can involve pure focus movement, do not exhibit Superiority effects. Bulgarian patterns with SC in the relevant respect. In Bulgarian MWF

constructions one wh-phrase undergoes wh-movement and other wh-phrases undergo pure focus movement. It turns out that, as noted in Bošković (1997b), only one wh-phrase in Bulgarian MWF constructions is sensitive to Superiority. The correlation between presence vs. absence of Superiority effects and the focus/wh movement distinction is thus straightforward: only one wh-phrase in Bulgarian MWF constructions undergoes wh-movement and only one wh-phrase is sensitive to Superiority. To be more precise, it is shown in Bošković (1997b) that the highest wh-phrase prior to wh-fronting must move first to SpecCP, the order of movement of other wh-phrases to SpecCP being free. Since the wh-phrase that moves first to SpecCP is the one that checks the +wh-feature of C under the natural assumption that movement to SpecCP triggers Spec-Head agreement with C and checks the strong +wh-feature of C, this state of affairs indicates that wh-movement, but not focus movement, is sensitive to Superiority. The data illustrating this are given in (13)-(14). (13)-(14) show that the indirect object must move before the direct object when it checks the strong +wh-feature of C, as in (13), but not when it undergoes pure focus movement, as in (14), where the strong +wh-feature of C is checked by *koj*. (Recall that, as discussed in note 1, the linear order of wh-phrases indicates the order of movement.)

(13) a. Kogo kakvo e pital Ivan?

whom what is asked Ivan

‘Who did Ivan ask what?’

b. ?*Kakvo kogo e pital Ivan?

(14) a. Koj kogo kakvo e pital?

who whom what is asked

‘Who asked who what?’

b. Koj kakvo kogo e pital?

In Bošković (1999) I provide an economy-based explanation of the insensitivity of Bulgarian and SC focus movement to Superiority that is based on certain differences in the formal properties of focus and wh-movement.

Before turning to the interpretation of multiple questions it is worth noting that French and English behave like SC and Bulgarian with respect to inversion and wh-movement. Wh-movement does not have to take place overtly in French constructions like (15a), which is not the case with English (15b).

(15) a. Tu as vu qui?

you have seen who

b. *You have seen who?

In Bošković (2000b) I propose to account for the different behavior of French and English with respect to wh-movement in the same way as the different behavior of Bulgarian and SC. What enables wh-in-situ in French is the possibility of LFC-insertion. When interrogative C is not inserted overtly, overt wh-movement does not take place. The LFC-insertion derivation is available in French but not in English. The reason for this is that interrogative C is specified as a PF affix in English, but not in French, independent evidence for which is provided by the fact that inversion is obligatory in English, but not in French questions. (More precisely, the fact that interrogative C

must be adjacent to a verb in English but not in French indicates that the C is a verbal affix in English, but not in French. See Bošković 2000b for explanation why inversion does not take place in English embedded questions.)

(16) a. Qui tu as vu?

who you have seen

b. *Who you have seen?

We thus have a uniform account of the different behavior of French and SC on one hand and English and Bulgarian on the other hand with respect to the obligatoriness of wh-movement and inversion in questions.

1.4.3. Interpretation of multiple questions and wh-movement in Bulgarian and SC

We have seen that the different status of Bulgarian and SC interrogative C with respect to PF affixhood results in a difference in the timing of interrogative C-insertion in Bulgarian and SC, which in turn results in different behavior of the two languages with respect to overt wh-movement: while Bulgarian must have it, SC does not have to have it. This difference is responsible for the different behavior of the two languages with respect to Superiority.

We now also have all we need to account for the different behavior of Bulgarian and SC with respect to the availability of single-pair answers in questions. There are other languages that, like SC, allow single-pair answers. As discussed in Bošković (1998), Japanese, Hindi, and Chinese, all

wh-in-situ languages, allow single-pair answers for questions like (3). German, a non-wh-in-situ language like English, does not allow it. It seems then that the obligatoriness of syntactic movement of a wh-phrase to SpecCP forces the pair-list interpretation. French, which can employ either the in-situ or the wh-movement strategy in questions, confirms this conjecture.⁵ Significantly, single-pair answers are possible in French, but only in in-situ questions. Thus, the in-situ multiple question in (17)a can have a single-pair answer. This answer is degraded with (17)b.

- (17) a. Il a donné quoi à qui?
he has given what to whom
'What did he give to whom?'
- b. Qu'a-t-il donné à qui?

The contrast between (17)a and (17)b confirms that the availability of single-pair answers depends on the possibility of not moving any wh-phrase to SpecCP overtly. Returning now to SC and Bulgarian, since SC questions do not have to involve wh-movement, it follows that they allow single-pair answers. Since Bulgarian questions do have to involve overt wh-movement, they disallow single-pair answers.⁶

To summarize, we have seen that the different status of SC and Bulgarian interrogative C with respect to PF affixhood is responsible for the different behavior of the two languages with respect to inversion and the obligatoriness of overt wh-movement, only Bulgarian requiring inversion and overt wh-movement. The difference with respect to wh-movement is in turn responsible for the different behavior of the two languages with respect to Superiority and the

availability of single-pair answers in questions, only Bulgarian exhibiting Superiority effects and requiring pair-list answers. We have thus ultimately traced the three differences between Bulgarian and SC noted in section 1 to a simple difference in the lexical properties of interrogative C in the two languages. Giving Bulgarian but not SC interrogative C lexical specification as a PF affix enables us to provide a uniform account of the different behavior of SC and Bulgarian with respect to inversion, Superiority effects, and the availability of single-pair answers. The account is in accordance with current assumptions concerning cross-linguistic variation, the locus of the differences being a lexical property of a functional head.

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Notes

1. See Rudin (1988), Bošković (1997a, 1999, 2000a), Richards (1997), and Pesetsky (2000), among others. One argument that the fixed order of wh-phrases in (2a-b) is a result of Superiority concerns the fact that (2b) improves with D-linked (ia) and echo wh-phrases (ib). The same happens with Superiority violations in English (ii). Notice that the above authors argue that the wh-phrase that is first in the linear order in Bulgarian questions is the one that moves first to SpecCP, in accordance with Superiority. The second wh-phrase either right-adjoins to the first wh-phrase, as in Rudin (1988), or moves to a lower SpecCP (the first wh-phrase being located in the higher SpecCP), as in Richards (1997) and Pesetsky (2000). The multiple specifiers analysis was originally proposed in Koizumi (1994.) (Notice that, as discussed in Bošković 1997a, 2000a, SC exhibits Superiority effects in certain contexts, which need not concern us here.)

(i) a. ?Koja kniga koj čovek kupuva?

which book which man buys

‘Which man is buying which book?’

b. ?Kakvo KOJ kupuva?

(ii) a. Who bought what?

b. *What did who buy?

c. Which book did which man buy?

d. What did WHO buy?

2. Izvorski shows that adverbs can intervene between the wh-phrase and the verb, which is not surprising in light of Bobaljik's (1995) claim that adverbs do not block affix hopping based on English constructions like *John completely solved the problem*, where I (i.e. *ed*) is assumed to hop onto the verb in PF. (See, however, Bošković in press, where it is shown that both the English and the Bulgarian example can be accounted for without appealing to Bobaljik's assumption. See also this work for discussion of some exceptions to the adjacency effect.)

(i) Kakvo izobšto/pravilno/?včera kupi Petko?

what at all/correctly/yesterday bought Petko

'What did Petko at all/correctly/yesterday buy?'

3. In Bošković (1997a, 2000a) I show that in certain contexts SC interrogative C is forced to enter the structure in overt syntax. I also show that in the contexts in questions SC must have overt wh-movement.

4. See Bošković (2000a) for some exceptions that need not concern us here.

5. I confine the discussion of French questions to non-subject questions, where it is clear whether overt wh-movement takes place.

6. For an explanation of the damaging effect of wh-movement on single-pair answers, see Bošković (1998). Under Bošković's (1998) analysis, which is based on Hagstrom's (1998) semantics of questions, languages with obligatory overt movement of a wh-phrase to SpecCP cannot license single-pair answers, while languages that do not have obligatory movement of a wh-phrase to SpecCP may, but do not have to, allow single-pair answers. In other words, not filling interrogative

SpecCP by a wh-phrase overtly is necessary but not sufficient for licensing single-pair answers. As a result, the impossibility of single-pair answers does not necessarily indicate obligatory overt movement to SpecCP. (The analysis presented in Bošković 1998 would not be falsified if there turn out to be some speakers of Japanese, Hindi, SC, or Chinese who do not allow single-pair answers.)