

On Multiple Left-Branch Dislocation: Multiple Extraction and/or Scattered Deletion?*

Željko Bošković
University of Connecticut

It is well known that Serbo-Croatian (SC) allows left-branch extraction (LBE), i.e. extraction of an NP edge. This paper focuses on examples with multiple NP-edges, as in (1). As shown in Bošković (in press a) and illustrated in (2), more than one NP-edge can be separated from the NP in addition to single NP-edge extraction (3). (I will refer to (2) as multiple left-branch dislocation (MLD)).

- (1) Prodaje onu staru kuću.
sells that old house
'He is selling that old house.'
- (2) Onu staru prodaje kuću.
that old sells house
- (3) Onu_i prodaje t_i (staru) kuću.
that sells old house

Bošković (in press a) examines such examples in some detail, but leaves several issues unresolved. The goal of this paper is to examine how MLD should be analyzed, investigating the viability of an analysis of MLD that was not considered in Bošković (in press a).

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1 Multiple Left-Branch Dislocation Constructions

Bošković (2014a, in press a) analyzes (2) as involving multiple application of focus movement, with each application left-branch extracting one element, LBE being allowed in SC.

- (4) Onu_i staru_i prodaje t_i t_j kuću.
 that old sells house
- (5) a. Onu_i prodaje t_i kuću.
 b. Staru_i prodaje t_i kuću.

I will consider here the possibility of an alternative analysis where (2) involves a single application of focus movement and scattered deletion.

- (6) [Onu staru ~~kuću~~]_i prodaje [~~onu staru~~ kuću]_i.
 that old house sells

I will start the discussion by pointing out some potential problems for the multiple focus LBE analysis of MLD examples like (2) (though see section 2 for ways of dealing with the issues in question under the multiple LBE analysis).

First, while SC multiple wh-fronting constructions (MWF) like (7) have been argued to involve multiple focus movement (see Bošković 2002, Stjepanović 1999), which indicates that multiple focus movement is in principle allowed in SC, multiple focus movement of non-wh-phrases is generally disallowed (the judgment in (7b) holds for the multiple-focus reading).

- (7) a. [_{FocP} Kome koga/koga kome [_{Foc'} on predstavlja]]?
 who.dat who.acc he is-introducing
 'Who is he introducing to whom?'
 b. * [_{FocP} Petru Mariju/Mariju Petru [_{Foc'} on predstavlja]].
 Peter_{dat} Marija_{acc} he is-introducing
 'He is introducing Marija to Peter.'

Second, as noted above, MWF has been argued to involve multiple focus movement. Based on MWF, Bošković (2002) shows that multiple focus

movement is free of ordering constraints; thus, either order is acceptable in (7a). This is not the case with the MLD construction in (8).

- (8) a. Onu staru prodaje kuću.
 that old sells house
 b. *Staru onu prodaje kuću.

In some MWF languages, MWF is subject to ordering constraints, i.e. superiority effects. This is for example the case with Bulgarian (see Bošković 2002 for an account of the SC/Bulgarian difference regarding superiority). However, even in Bulgarian, in examples with three wh-phrases the second and the third wh-phrase are freely ordered (compare (9b) and (9d); see Bošković 2002 for an account of this selective superiority effect).

- (9) a. Kogo kakvo e pital Ivan?
 whom what is asked Ivan
 ‘Who did Ivan ask what?’
 b. ?*Kakvo kogo e pital Ivan?
 c. Koj kogo kakvo e pital?
 who whom what is asked
 ‘Who asked who what?’
 d. Koj kakvo kogo e pital? (Bulgarian)

However, with MLD strict ordering holds even for the cases with three dislocated left-branches. (10) gives the only allowed word order for *onog neozbiljnog mašinskog*. There is thus no selective superiority effect with MLD. More generally, the ordering effects with MLD do not correspond to those found with MWF.

- (10) On otpušta onog neozbiljnog mašinskog tehničara.
 he is-firing that not-serious mechanical technican
 (11) a. ?*Onog mašinskog neozbiljnog otpušta tehničara.
 that mechanical not-serious is-firing technican
 b. ?Onog neozbiljnog mašinskog otpušta tehničara.
 that not-serious mechanical is-firing technican

Next, a clitic (*je*) cannot follow a sequence of two fronted wh-phrases, which, as noted above, undergo independent focus movements. However, a clitic can follow fronted elements with MLD. Under the standard assumption that SC clitics follow either the first word or the first constituent of their sentence, this indicates that the elements preceding the clitic form a constituent in (13) but not in (12).

- (12) ?*Ko koga je vidio?
 who whom is seen
 ‘Who saw whom?’
- (13) Malu žutu je kupio kuću.
 small yellow is bought house
 ‘He bought a small, yellow house’

The above discussion raises potential issues for the focus movement treatment of MLD. There is also a potential argument that MLD does not involve LBE, more precisely, that MLD should not be treated in the same way as LBE. With simple LBE, the remnant can be placed either before or after the verb, as in (14) (most speakers in fact prefer (14a)). In MLD, the remnant needs to follow the verb, as shown by (15).

- (14) a. Žutu mu kuću pokazuje.
 yellow him house is-showing
 ‘He is showing him the yellow house.’
 b. Žutu mu pokazuje kuću.
- (15) a. ?*Onu žutu mu kuću pokazuje.
 that yellow him house is-showing
 b. Onu žutu mu pokazuje kuću.

MLD thus does not behave like LBE in this respect.

Consider now the nature of the restriction that is responsible for the effect in (15), since it will be important for the scattered deletion analysis of MLD. Bošković (2014a) argues that what we are dealing with here is a discourse requirement on MLD; the fronted elements are interpreted as focalized, and the remnant is backgrounded. Backgrounded elements follow the verb in SC, hence the contrast in (15). Bošković also observes that this analysis can account for the contrast in (16)-(17), the

backgrounding requirement being the reason why intensifying/focalizing adverbs cannot occur in the remnant.

- (16) ?Onu tamnu prodaje plavu kuću.
 that dark is-selling blue house
 (17) ?*Onu tamnu prodaje izuzetno plavu kuću.
 that dark is-selling extremely blue house

2 The Scattered Deletion Analysis

Having discussed potential problems for the multiple LBE analysis of MLD, in this section I examine the viability of the alternative, scattered deletion account of MLD.

While examples like (18) are standardly analyzed as involving subextraction of *malu*, there are alternative accounts of such examples (though, as discussed in the references cited below, they all face very serious problems). Thus, Fanselow and Ćavar (2002) argue that (18) involves full NP fronting+scattered deletion; one part of the fronted NP being pronounced in the fronted and one part in a lower position, as in (19).¹

- (18) Malu_i je kupio [t_ikuću]
 small is bought house
 ‘He bought a small house.’
 (19) [Malu ~~kuću~~] je kupio [~~malu~~ kuću]
 small is bought house

What is of interest here is Franks’s (1998) claim that pronunciation of a lower copy is possible if and only if higher copy pronunciation would lead to a PF violation. There is ample motivation for this claim (see e.g. Bošković 2001 and Bošković and Nunes 2007), which also follows from independent mechanisms, as shown by Nunes (2004). While PF considerations typically force lower pronunciation of the full copy of the fronted constituent, there are cases where PF considerations require

¹Another alternative is remnant movement, as in Abels (2003) and Franks and Progovac (1994); see Bošković (2005), Stjepanović (2010, 2011), and Talić (2013) for evidence against this analysis.

scattered deletion, as with some instances of cliticization in Bulgarian and Macedonian.

Consider the basic cliticization pattern in Bulgarian and Macedonian.

(20)				Bulgarian	Macedonian			
	a.	Petko <i>mi</i>	<i>go</i>	dade	včera.	OK	OK	
		Petko	me. _{dat}	it. _{acc}	gave	yesterday		
		'Petko gave me it yesterday.'						
	b.	Včera	<i>mi</i>	<i>go</i>	dade	Petko.	OK	OK
	c.	<i>Mi</i>	<i>go</i>	dade	Petko	včera.	*	OK
	d.	Dade	<i>mi</i>	<i>go</i>	Petko	včera.	OK	*
	e.	Včera	dade	<i>mi</i>	<i>go</i>	Petko	*	*

In this context Macedonian clitics always precede the verb, while Bulgarian clitics precede the verb unless that ordering of clitics with respect to the verb would leave clitics sentence initial. In that case Bulgarian clitics follow the verb. Bošković (2001) proposes a lower copy pronunciation account of these facts based on Franks's proposal regarding when lower copy pronunciation is allowed. In both Bulgarian and Macedonian the clitics move in front of the verb. Now, it is well-known that Bulgarian clitics are enclitics, and Macedonian clitics are proclitics (in this context). Nothing then goes wrong if the highest copy of the clitics is pronounced in Macedonian, which then must happen. In Bulgarian, this holds for the cases where something precedes the clitic in the raised position. If that is not the case, pronouncing the highest clitic copy would lead to a violation of their enclitic PF requirement. The lower copy of the clitic is then pronounced in this case, which then correctly gives us the V-clitic order only for the context where nothing precedes the verb.

- (21) *Bulgarian*: a. [X cliticⁱ V ~~cliticⁱ~~]
 b. [~~cliticⁱ~~ V cliticⁱ]
- (22) *Macedonian*: [(X) cliticⁱ V ~~cliticⁱ~~]

Bošković (2001) shows that this analysis leads to scattered deletion in certain cases. Main verbs and auxiliary/pronominal clitics form a complex head in Bulgarian and Macedonian, so that the verb carries the clitics along when undergoing head-movement, as in the *li* construction. In (23a), this complex head left-adjoins to *li*, with the head of its chain

pronounced. This pronunciation is, however, not possible in Bulgarian (23b), since *si mu gi* as well as *li* are enclitics. The only way to satisfy the enclitic requirement here is via scattered deletion, as in (25b), which yields (24b). Since nothing goes wrong with full higher copy pronunciation in Macedonian (25a), this is then the only option, hence the ungrammaticality of (24a).

- (23) a. *Si mu gi dal li* parite? (Macedonian)
 are him.dat. them given Q the-money
 b. **Si mu (gi) dal li* parite? (Bulgarian)
 are him.dat. them given Q the-money
 ‘Have you given him the money?’
- (24) a. **Dal li si mu gi* parite? (Macedonian)
 given Q are him.dat. them the-money
 b. *Dal li si mu (gi)* parite? (Bulgarian)
 given Q are him.dat. them the-money
 ‘Have you given him the money?’
- (25) a. [*si mu gi dal*] *li* [~~*si mu gi dal*~~] parite] (Macedonian)
 b. [~~*si mu gi dal*~~] *li* [*si mu gi dal*] parite] (Bulgarian)

What this indicates is that scattered deletion is in principle possible. There are, however, many well documented problems with the scattered deletion analysis of (18) which show that the analysis cannot be maintained: it simply does not hold up empirically (see also the discussion below). Thus, Bošković (2005) shows that the analysis has a very serious overgeneration problem, considerably overgenerating the available splits. Stjepanović (2010) shows that the analysis fails to account for the available readings of multiple questions involving LBE and Stjepanović (2011) shows that it does not account for crossing restrictions in negative concord constructions. The most glaring problem is that scattered deletion is basically a last resort mechanism. While it is in principle available, it is severely constrained: it takes place only if full deletion is not possible. This is e.g. the reason why it is disallowed in (26).

- (26) **[That student]ⁱ was arrested [that student]ⁱ*

In (19), full deletion is obviously possible, hence scattered deletion should be disallowed. While this rules out the scattered deletion analysis of simple LBE cases like (18) the problem actually does not arise with MLD: full deletion may in fact not be an option with MLD on the relevant reading.

(27) [Onu žutu ~~kuću~~] je kupio [~~onu žutu~~ kuću]
 that yellow is bought house

Consider (27) in light of the discourse requirement on MLD where one part of the NP is focalized and one part is backgrounded. The requirement cannot be met if *kuću* is pronounced in the focus position, where the full NP [*onu žutu kuću*] moves. *Kuću* may then be pronounced in its base position following the verb to meet the backgrounding requirement.

Recall now that under Franks's proposal, only PF considerations can sanction lower copy pronunciation. Stjepanović (1999) shows that stress assignment can also cause lower copy pronunciation. The relevant discourse properties have PF reflexes in terms of stress (emphatic stress vs normal stress vs distressing), which can motivate lower copy pronunciation here.

The scattered deletion analysis thus seems to be a viable option for analyzing MLD. In fact, it resolves all the potential problems for the multiple focus/left-branch extraction analysis, noted above. 1. Under the scattered deletion analysis, MLD does not involve otherwise disallowed multiple focus-movement of non-wh-phrases (cf. (7b)). 2. There is no superiority issue because there is no multiple movement. The fronted part then has to preserve the base-generated order ((8), (11)). 3. While under the multiple Spec analysis of MWF (see Koizumi 1994, Richards 2001), two separate constituents precede the clitic in (12), which is disallowed, only one precedes it in (13) under the scattered deletion analysis. 4. The contrast in (14)-(15) also follows from the scattered deletion analysis, where (14), but not (15), involves subextraction.

A question, however, arises here. As discussed in Bošković (2014a, in press a), it is actually very hard to block the multiple LBE analysis theoretically. Can the multiple LBE derivation, adopted in Bošković (2014a, in press a), then still be available for the MLD construction?

In fact, the discussion in Bošković (2014a, in press a) indicates that most of the issues noted above can be handled under the multiple LBE analysis, though with some additional assumptions that are not needed under the scattered deletion analysis. Thus, Bošković analyzes the contrast between (4) and (7b) as involving a semantic effect. In particular, Bošković claims that focalized elements in a multiple non-wh focus movement construction must have a single referent, which is the case in (4), but not (7b). It is in fact clear that there are additional pragmatic/semantic requirements on MLD, e.g., deicticity, as shown below ((28) actually improves with pointing).

- (28) ?*Malu plavu mu pokazuje kuću.
 small blue him.dat is-showing house
 ‘She is showing him a small blue house.’
- (29) Onu malu plavu mu pokazuje kuću.
 that small blue him.dat is-showing house
- (30) *Male plave ga ne zanimaju kuće.
 small blue him.acc not interest house
 ‘Small blue houses don’t interest him.’

Regarding Superiority, Bošković (2014a, in press a) follows the standard assumption that what is responsible for Superiority effects (i.e. free/fixed order of fronted wh-phrases) with MWF is Attract Closest. However, he argues that what is responsible for the fixed order of fronted elements in MLD, i.e. (8), is the Phase-Impenetrability Condition, given Bošković’s proposal that in phases with multiple edges, only the outmost edge counts as the phasal edge for the purpose of the PIC.² Further, Bošković argues that just like traces do not count as interveners for relativized minimality (see Chomsky 1995, Bošković 2011), they do not count as edges for the purpose of the PIC. Consider in this respect (31).³

²For additional evidence for the proposal, see Wurmbrand (2013), Zanon (in press), and Yoo (2015).

³The underlying assumptions in the following discussion are that SC lacks DP, as a result of which demonstratives as well as adjectives are NP-adjoined in SC (see Bošković 2012), and that the highest projection in the extended domain of N (in fact any lexical category) functions as a phase (see Bošković 2014b), which makes NP a phase in SC (due to the absence of DP).

- (31) a. *Onu_i prodaje t_i staru kuću.*
 that sells old house
 b. **Staru_i prodaje onu t_i kuću.*

The second NP-adjoined element, *staru*, in (31) is not at the edge of the NP, hence cannot move, until the first element moves. After *onu* moves, *staru* can move without violating the PIC, tucking in under *staru* (see Richards 2001), which results in fixed word order in (4)/(8). The same holds for (11).

As for the potential problem for the multiple LBE analysis noted above regarding (14)-(15), the issue here may simply be the discourse requirement on MLD. MLD and simple LBE have different discourse requirements, which can be implemented as a filtering effect in the case of MLD that rules out in semantics/pragmatics certain constructions (namely (15a)) that are syntactically well-formed.

The clitic placement issue is, however, real. Given the nature of SC cliticization, where what precedes the clitic must be a constituent, clitics force constituency on the fronted elements in MLD. Accommodating the contrast in (12)-(13) under the multiple LBE analysis then becomes non-trivial. Here is one possibility: Rudin (1988) argues that multiple movement to the same projection found in MWF constructions involves right-adjunction of the element that moves second to the first fronted element. Koizumi (1994), on the other hand, argues that such cases involve multiple specifiers. Given that only the first analysis treats the fronted elements as a syntactic constituent, if we assume straightforward syntax-phonology mapping here which preserves syntactic constituency it may be that both the Rudin option and the Koizumi option are available, with MWF involving the latter and MLD the former. Since the fronted elements are then a constituent only with MLD, placing a clitic following the fronted sequence is then possible only with MLD.

Another option could be to adopt Rudin's (1988) treatment of SC MWF where the first fronted wh-phrase is located in SpecCP and the second one in a lower position below the CP projection, which can be the focus position as in Bošković's (2002) analysis. Both fronted elements would then be located in the focus position in the MLD case, since there is obviously no wh-movement here. In fact, the MWF construction could involve multiple focus movement, just like the MLD construction, followed by wh-movement of one wh-phrase. The analysis can rather

easily capture the contrast in (12)-(13). However, it does raise some issues, for example, how to deal with Bošković's (2002) arguments that SC MWF in contexts like (12) at least does not need to involve wh-movement and the issue raised by the freezing/criterial effect (Rizzi 2006, Bošković 2003, 2008), which is standardly assumed to ban further movement from criterial positions like SpecFocP.

Another possibility would be to appeal to a filtering effect of prosody. As discussed in Bošković (2001), the constituency requirement on SC clitics is actually prosodic: what precedes them (within their intonational phrase) must be a prosodic constituent (see also Bošković in press b). It is then possible that MWF cases like (12) and MLD cases like (13) involve the same syntactic derivation, i.e. they both involve multiple focus movement. However, possibly due to prosodic peaks, or more generally prosodic properties of wh-phrases, the fronted wh-phrases here cannot be parsed into a single prosodic constituent, while the fronted non-wh-phrases can be. This would push the account of (12)-(13) into PF, i.e. the prosodic component.

If one of these options for analyzing the clitic cases in (12)-(13) can be developed there would be no need for the scattered deletion analysis of MLD with respect to the data discussed so far since the multiple LBE analysis would be able to handle all of them. However, if it turns out that none of the above options for analyzing the clitic cases in (12)-(13) under the multiple LBE analysis of MLD can be taken, scattered deletion may be required. In fact, in light of the above discussion, it would then be possible that while MLD in principle can involve either multiple LBE or scattered deletion, when a clitic is present only the latter would converge.

There is, however, another way of teasing apart the multiple LBE and the scattered deletion analysis of MLD. As discussed in Bošković (2012 and references therein), adjectival left-branch extraction is found only in languages without articles. However, Bošković (2013) observes an additional requirement on adjectival LBE: even in languages like SC which allow left-branch extraction only agreeing adjectives can undergo such extraction, as illustrated by (32)-(33). Both *braon* and *smedja* mean "brown". While *braon* does not decline, hence does not agree with the noun it modifies, *smedja* does agree. *Bež* also does not decline/agree with the noun, just like *braon*. The contrast in (32)-(33) thus indicates that only agreeing adjectives undergo left-branch extraction.

- (32) ?*Bež/braon_i je on kupio t_i kola.
 Beige/brown is he bought car
 'He bought a brown/beige car.'
- (33) Smedja_i je on kupio t_i kola.
 brown is he bought car

Observing that non-inflected adjectives must be adjacent to the noun in cases where both an inflected and a non-inflected adjective modify the same noun (34), that they cannot be used in color-combinations with inflected adjectives (35), and that, in contrast to inflected adjectives, they do not allow ellipsis of the noun they modify (36), Bošković argues that non-inflected/non-agreeing adjectives like *braon* and *bež* have a different structural status from inflected/agreeing adjectives; in particular, they are head-adjoined (i.e. they are adjoined to N), hence they cannot undergo left-branch extraction, which is a phrasal movement (the analysis also captures the facts in (34)-(36), see Bošković 2013).

- (34) a. ?*braon/bež plastična kola
 brown/beige plastic car
 b. plastična braun/bež kola
 c. smedja plastična kola
 brown plastic car
- (35) a. ?*plavo-braon b. plavo-smedja
 blue brown blue brown
 c. bež-braon d. ?*bež-smedja
 beige brown beige brown
- (36) On nam je pokazao plavu kuću, a ona nam je pokazala
 he us.dat is shown blue house and she us.dat is shown
 crvenu/*bež
 red/beige

A question now arises what happens with adjectives like *braon* and *bež* in MLD configurations. If MLD can only be derived via multiple LBE, we would expect MLD examples involving *braon* and *bež* to be as degraded as (32). On the other hand, if a scattered deletion derivation is an option for MLD we may expect (32) to improve in an MLD configuration. Although the relevant judgments are rather subtle, all the

speakers found (37b) to be better than (37a). (There is no such contrast in (38)).⁴

- (37) a. ?*Bež/braon mu pokazuje kuću.
 beige/brown him.dat is-showing house
 ‘He is showing him a beige/brown house’
 b. ?Onu bež/braon mu pokazuje kuću.
 that beige/brown him.dat is-showing house
 ‘He is showing him that beige/brown house.’
- (38) a. Smedju mu pokazuje kuću.
 brown him.dat is-showing house
 b. Onu smedju mu pokazuje kuću.
 that brown him.dat is-showing house

Assuming that the LBE derivation is ruled out for both (37a) and (37b) for the reason discussed above, the data under consideration can be captured if MLD also has at its disposal the scattered deletion option. The scattered deletion derivation can then be responsible for the improved status of (37b). It should be emphasized here that the current discussion provides additional evidence against the scattered deletion derivation for simple LBE cases: the scattered deletion derivation is available in (37b), but crucially not in (37a).

The remaining issue is that while (37b) is better than (37a), (38b) is still slightly better than (37b). It is not clear why this is the case. One possibility is that the scattered deletion derivation of MLD itself is slightly dispreferred. ((37b) can only be derived via scattered deletion, while (38b) can in principle involve multiple LBE.)

At any rate, what is important for us is that (37) represents another case where LBE and MLD behave differently, which suggests that the two should be treated differently.

3 Conclusion

⁴The above reports preliminary results, with the judgments of four linguists, Aida Talić, Sandra Stjepanović, Miloje Despić, and myself. Obviously, additional data verification is needed here. Given the discussion below, one might expect the contrast in (37) to be even sharper. It is possible that the relative complexity of MLD constructions (in comparison with simple LBE constructions) interferes in a direct comparison of the two by favoring the latter (see also the point made below regarding (37b)).

While the situation is certainly not crystal clear, given the data discussed in this paper and the theoretical status of the relevant mechanisms, it appears that MLD can in principle involve either multiple LBE or scattered deletion (the latter is not available in simple LBE cases).

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zeljko.boskovic@uconn.edu