

Clitics as Non-Branching Elements and the Linear Correspondence Axiom¹

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Recent work on South Slavic cliticization standardly assumes that clitic ordering in Bulgarian (Bg) and Macedonian (Mac) is derived through rightward head-adjunction, which is inconsistent with Kayne's (1994) Linear Correspondence Axiom (LCA). In this squib I show that this potentially very serious problem for the LCA can be resolved if we adopt a particular approach to the structural representation of clitics, which is meant to hold crosslinguistically, namely, that clitics are syntactically defined as non-branching elements, i.e. ambiguous X^0 /XPs, as suggested in Chomsky (1994). To the extent that it is successful, the analysis presented in this squib will provide evidence for the clitics-as-non-branching-elements hypothesis. Below, I confine the discussion of Bg/Mac clitics to the issues that are directly relevant to my current theoretical concerns, which leads me to ignore a number of very interesting issues that the phenomenon raises. For more comprehensive recent discussions of cliticization in Bg and/or Mac, see Alexandrova (1997), Avgustinova (1994), Boeckx and Stjepanović (2000), Bošković (2001b), Caink (1998), Čašule (1997), Dimitrova-Vulchanova (1995), Dimitrova-Vulchanova and Hellan (1999), Franks (1998), Franks and King (2000), King (1996), Legendre (2000), Penčev (1993), Rivero (1997), Rudin (1997), and Tomić (1996, 1997), among others.

The main verb and the clitic cluster consisting of auxiliary and pronominal clitics are standardly assumed to be located in the same head position in Bg and Mac constructions like (1a-b) due to their impenetrability and the fact that the verb carries clitics along when moving to a higher head.² (I will refer to the clitic cluster+main verb complex as the extended clitic cluster (ECC). Clitics are given in italics.)

(1) a. Petko *mi go* dade.

Petko me.dat it.acc gave

'Petko gave it to me.'

- b. *Ti si mu gi dal.*
 you are him.dat them.acc given
 ‘You have given them to him.’

To illustrate the impenetrability, consider first the ECC in Serbo-Croatian (SC), a closely related language. The main verb in SC (2) is clearly not located in the same head position as the clitic cluster. In contrast to Bg and Mac, the main verb can be separated from the clitic cluster in SC. Bg counterparts of SC (2a-b) are given in (3a-b).³

- (2) a. *Jovan mi ga juče dade.*
 Jovan me.dat it.acc yesterday gave
 ‘Jovan gave it to me yesterday.’

- b. *Ti si mu ih brzo dao.*
 you are him them quickly given
 ‘You quickly gave them to him.’

- (3) a. **Petko mi go včera dade.*
 Petko me.dat it.acc yesterday gave

- b. **Ti si mu gi nabârzo dal.*
 you are him.dat them.acc quickly given

Bošković (2000, 2001b), Čavar (1999), and Stjepanović (1998a,b, 1999) show that even the clitic cluster itself can be broken by a variety of operations in SC. Thus, as shown in Stjepanović (1998a,b) and illustrated in (4), ellipsis can break the clitic cluster in SC.

- (4) a. *Mi smo mu ga dali, a i vi ste mu ~~ga dali~~ (takodje).*
 we are him.dat it.acc given and also you are him.dat it.acc given too
 ‘We gave it to him, and you did too.’
- b. ?*Mi smo mu ga dali, a i vi ste mu ~~ga dali~~ (takodje).*

Working under the standard assumption that only constituents can be elided, Stjepanović concludes on the basis of (4) that SC clitics are not located in the same head position.⁴ More precisely, she concludes that the auxiliary, the dative, and the accusative clitic are all located in different projections, with the auxiliary clitic being higher than the pronominal clitics and the dative clitic being higher than the accusative clitic. The contrast between (4b) and (5) confirms the latter conclusion.⁵

(5) **Mi smo mu ga dali, a i vi ste ga ~~mu~~ dali* (takodje).

Crucially, the counterparts of (4-5) are all ungrammatical in Bg and Mac, as Bg (6a-c) illustrate.

(6) a. **Nie sme mu go dali, i vie ste ~~mu~~ ~~go~~ dali* (sũšto).

we are him.dat it.acc given and you are him.dat it.acc given too

‘We gave it to him, and you did too.’

b. **Nie sme mu go dali, i vie ste mu ~~go~~ dali* (sũšto).

c. **Nie sme mu go dali, i vie ste go ~~mu~~ dali* (sũšto).

Bošković (2000, 2001b), Čavar (1999), and Stjepanović (1998a,b, 1999) show that a number of other processes can break the clitic cluster and the ECC in SC, all of which confirm the hierarchy of projections the relevant elements occupy that was established with respect to ellipsis. Crucially, as shown in Bošković (2001b), none of these processes can break the clitic cluster or the ECC in Bg and Mac.⁶ This confirms the standard assumption that in Bg and Mac, the clitic cluster and the ECC, such as those in (1), are located in the same head position.

How can we account for the order of elements within the ECC in Bg/Mac? The standard analysis (see, e.g., Bošković 2001b, Franks 1998, 1999, Franks and King 2000, Rudin 1997, Rudin, Kramer, Billings, and Baerman 1999, Tomić 1997, 2000) is that the relevant elements are heading different, hierarchically arranged projections, as in SC. A complex ECC head is then formed through head movement, which, according to Bošković (1995, 2000, 2001b) and Stjepanović (1998a,b, 1999), does not happen in SC. So, we start with something like (7a-b) and end up with (7c-d).⁷

- (7) a. [_{AgriOP} [_{Agrio'} dative clitic [_{AgrdoP} [_{Agrdo'} accusative clitic [_{VP} [_{V'} V]]]]]]]
- b. [_{AuxP} [_{Aux'} auxiliary clitic [_{AgriOP} [_{Agrio'} dative clitic [_{AgrdoP} [_{Agrdo'} accusative clitic [_{VP} [_{V'} V]]]]]]]]]]]
- c. [_{AgriOP} [_{AgriO'} dative clitic+accusative clitic+V [_{AgrdoP} [_{Agrdo'} t [_{VP} [_{V'} t]]]]]]]
- d. [_{AuxP} [_{Aux'} auxiliary clitic+dative clitic+accusative clitic+V [_{AgriOP} [_{Agrio'} t [_{AgrdoP} [_{Agrdo'} t [_{VP} [_{V'} t]]]]]]]]]]]

Notice now that the structural height of relevant elements prior to the ECC formation corresponds to the left-to-right order of heads within the ECC. To capture this, it is assumed in the relevant literature (see, e.g., Franks 1997, Franks and King 2000, Rudin 1997, Rudin, Kramer, Billings, and Baerman 1999, Tomić 1996) that the formation of the complex ECC head takes place through successive cyclic rightward head adjunctions. (1a-b) are thus standardly analyzed as shown in (8). (The derivation of the relevant part of (1a) is given in (8a-b) and that of (1b) in (8c-e).) The relevant part of the slightly more complicated construction in (9a), involving a negative proclitic standardly assumed to head NegP (the clitic cannot be separated from the material following it), is analyzed as shown in (9b-e).⁸

- (8) a. [_{AgriOP} *mi* [_{AgrdoP} *go+dade_i* [_{VP} *t_i*]]]
- b. [_{AgriOP} *mi*+ [*go+dade_i*]_j [_{AgrdoP} *t_j* [_{VP} *t_i*]]]
- c. [_{AuxP} *si* [_{AgriOP} *mu* [_{AgrdoP} *gi+dal_i* [_{VP} *t_i*]]]]]
- d. [_{AuxP} *si* [_{AgriOP} *mu*+ [*gi+dal_i*]_j [_{AgrdoP} *t_j* [_{VP} *t_i*]]]]]
- e. [_{AuxP} *si*+ [*mu*+ [*gi+dal_i*]_j]_k [_{AgriOP} *t_k* [_{AgrdoP} *t_j* [_{VP} *t_i*]]]]]

- (9) a. *Ti ne si mu gi dal.*
 you neg are him.dat them.acc given

‘You have not given them to him.’

- b. [_{NegP} *ne* [_{AuxP} *si* [_{AgriOP} *mu* [_{AgrdoP} *gi+dal_i* [_{VP} *t_i*]]]]]]]
- c. [_{NegP} *ne* [_{AuxP} *si* [_{AgriOP} *mu*+ [*gi+dal_i*]_j [_{AgrdoP} *t_j* [_{VP} *t_i*]]]]]]]
- d. [_{NegP} *ne* [_{AuxP} *si*+ [*mu*+ [*gi+dal_i*]_j]_k [_{AgriOP} *t_k* [_{AgrdoP} *t_j* [_{VP} *t_i*]]]]]]]

e. [_{NegP} *ne* + [_{si} + [_{mu} + [_{gi} + [_{dal_i]]_j]]_k]]_l] [_{AuxP} *t_l*] [_{AgrioP} *t_k*] [_{AgdoP} *t_j*] [_{VP} *t_i*]]]]]]}

The above derivations are obviously incompatible with Kayne (1994), which disallows rightward adjunction. In fact, it is a tacit assumption in the literature on South Slavic clitics that the LCA cannot be maintained, at least not for head movement (see in this respect Chomsky 1995, who adopts the gist of Kayne's system but leaves open the possibility that it might not be applicable to head-movement, essentially through a stipulation).⁹

A question that we need to answer, then, is whether Bg and Mac ECC can be formed through leftward instead of rightward head-adjunction while still having the left-to-right order of elements within the ECC reflect the higher-to-lower hierarchical structure of relevant elements prior to the ECC formation. At first sight, the answer seems to be no. However, I will show in this squib that there actually is a principled way of accomplishing this which will resolve a potentially very serious problem for Kayne's (1994) system. More precisely, I will show that given economy of derivation, the task at hand can be accomplished if we take seriously Chomsky's (1994) suggestion that clitics are non-branching elements.

Chomsky (1994) proposes a phrase-structure system that allows for the existence of elements that are at the same time phrases and heads, the prerequisite for the ambiguous XP/X^0 status of *Y* being that *Y* does not branch. (In fact, every non-branching element is automatically both a phrase and a head in Chomsky 1994.) Chomsky mentions clitics as a possible example of ambiguous XP/X^0 elements. Bošković (1997b) provides empirical evidence for this suggestion, which can be interpreted as a way of capturing the intuition that clitics have less structure than their non-clitic counterparts (assuming that the latter do branch), a position argued for convincingly in Cardinaletti and Starke (1999). Suppose now that clitics are indeed ambiguous XP/X^0 elements, which means that they do not branch. (This would be necessary but not sufficient for something to be a clitic.) I take this to be the structural definition of a clitic.¹⁰ This has an interesting consequence for auxiliary clitics. Auxiliary clitics such as *e* in Bg (10a) can no longer be analyzed as a head of *XP* taking a phrase as complement, as shown in (10b). Instead, we need to analyze the *XP* as headed by a null

element, with the auxiliary clitic being located in its specifier, as shown in (10c). Since X rather than the auxiliary clitic is taking a complement, the clitic remains non-branching and, therefore, an ambiguous XP/X⁰ element.¹¹

(10) a. Petko *e* rabotil včera.

Petko is worked yesterday

‘Petko worked yesterday.’

b. Petko_i [_{XP} [_{X'} e [_{t_i} rabotil včera]]]

c. Petko_i [_{XP} e [_{X'} X [_{t_i} rabotil včera]]]

Pronominal clitics in structures like (7a-b) require a minimal change. Placing them in SpecAgrPs instead of the Agr heads ensures that they do not branch since in this position they do not head a branching projection.¹² Under the clitics-as-non-branching elements analysis, the relevant parts of (1a-b) then have the following structures if we ignore the ECC formation. (I have relabeled X from (10), which I assume to be verbal in nature, as V. As noted in fn 7, the precise identity of the projections where clitics are located does not affect the argument to be given and should not be attached much importance. What is important is that the clitics are located in the Spec positions of separate phrases.)

(11) a. [_{AGRioP} *mi* [_{AGRio'} [_{AGRdoP} *go* [_{AGRdo'} [_{VP} *dade*]]]]]]]

b. [_{VP} *si* [_{V'} [_{AGRioP} *mu* [_{AGRio'} [_{AGRdoP} *gi* [_{AGRdo'} [_{VP} *dal*]]]]]]]]]]]

How are the ECCs created in (11)? Consider first (11a). Recall that under the standard analysis, given in (8a-b), the clitic-verb complex is formed by right-adjoining the verb to the clitics. I suggest that the complex is instead formed by left-adjoining the clitics to the verb, which is in accordance with Kayne (1994).¹³ I will show that the leftward adjunction analysis gives the correct order within the ECC given the clitics-as-non-branching-elements hypothesis and the economy of derivation condition that every requirement be satisfied through the shortest movement possible, which is responsible for Superiority effects. E.g., given the structure in (12a) prior to wh-movement, the

condition in question favors the movement of the first wh-phrase to SpecCP over the movement of the second wh-phrase. The strong +wh-feature of C is checked through a shorter movement in (12b) than in (12c). (For our current purposes, we can assume that the length of movement is measured in terms of nodes traversed.)

- (12) a. +wh C John tell who that Mary should buy what
 b. Who did John tell t that Mary should buy what?
 c. *What did John tell who that Mary should buy t?

Let us now return to (11a), repeated here as (13).

- (13) $[_{AGRioP} mi [_{AGRio'} [_{AGRdoP} go [_{AGRdo'} [_{VP} dade]]]]]$

Assuming a c-command requirement on overt movement, no clitic can incorporate into the verb until the verb moves out of the VP. When the verb moves to Agrio, the accusative clitic can incorporate into the verb, while the dative clitic still cannot. The dative clitic has to wait for the verb to move to a head position above Agrio. The accusative clitic could in principle undergo incorporation into the verb either before (see 14a)) or after (see (14b)) V-movement to the higher head position.

- (14) a. $[_{AGRioP} mi [_{AGRio'} dade_i [_{AGRdoP} go [_{AGRdo'} [_{VP} t_i]]]]]$
 b. $dade_i [_{AGRioP} mi [_{AGRio'} t_i [_{AGRdoP} go [_{AGRdo'} [_{VP} t_i]]]]]$

Notice, however, that the incorporation results in shorter movement if it takes place while the verb is still in AgrioP. Given the economy of derivation condition that every requirement be satisfied through the shortest movement possible, the accusative clitic then has to incorporate into the verb by left-adjointing to it while the verb is still in AgrioP. The dative clitic has to wait for the verb (i.e. the accusative clitic-verb complex) to move to a higher head position and then undergoes incorporation into it through left-adjunction.¹⁴ We derive the correct order dative clitic-accusative clitic-verb.¹⁵

- (15) $[mi_i + [go_j + dade_i]] [_{AGRioP} t_i [_{AGRio'} t_k [_{AGRdoP} t_j [_{AGRdo'} t_i [_{VP} t_i]]]]]]$

We see here a very interesting consequence of economy of derivation, which requires that every syntactic requirement be satisfied through the shortest movement possible. Economy of derivation imposes sort of an earliness requirement on the movement of X to Y if Y is to undergo further movement to Z. X must move to Y as soon as possible; in particular, before Y moves to Z. (For more examples of this kind, see Bošković 1997b:154-156.)¹⁶

(1b), whose relevant structure (ignoring the ECC formation) is given in (11b) and repeated in (16a), can also be readily derived under the current analysis. Given economy of derivation, the pronominal clitics have to adjoin to the participle (the accusative clitic undergoing the adjunction before the dative clitic, as discussed above) before the auxiliary clitic. Given that the order of the adjunctions, forced by economy of derivation, is the following: 1. accusative clitic 2. dative clitic 3. auxiliary clitic, we end up with the correct word order auxiliary clitic-dative clitic-accusative clitic-participle under the leftward adjunction analysis, as shown in (16b).

(16) a. $[_{VP} si [_{V'} [_{AGRioP} mu [_{AGRio'} [_{AGRdoP} gi [_{AGRdo'} [_{VP} dal]]]]]]]]]]]$

b. $[si_n + [mu_1 + [gi_j + dal_i]_k]_m] [_{VP} t_n [_{V'} t_m [_{AGRioP} t_l [_{AGRio'} t_k [_{AGRdoP} t_j [_{AGRdo'} t_i [_{VP} t_i]]]]]]]]]]$

The reader can verify that the slightly more complicated (9a), repeated in (17a), is also readily accounted for under the current analysis given that the negation, itself a proclitic, is placed in SpecNegP, in accordance with the clitics-as-non-branching-elements analysis. Economy of derivation forces the following order of adjunctions: 1. accusative clitic 2. dative clitic 3. auxiliary clitic 4. negation, which under the leftward adjunction analysis yields the right word order: negation-auxiliary clitic-dative clitic-accusative clitic-participle, as shown in (17b) for the relevant part of the structure.¹⁷

(17) a. *Ti ne si mu gi dal.*

you neg are him.dat them.acc given

‘You have not given them to him.’

b. $[ne_p + [si_n + [mu_1 + [gi_j + dal_i]_k]_m]_o] [_{NegP} t_p [_{Neg'} t_o [_{VP} t_n [_{V'} t_m [_{AGRioP} t_l [_{AGRio'} t_k [_{AGRdoP} t_j [_{AGRdo'} t_i [_{VP} t_i]]]]]]]]]]]]$

]]]]]]]]

I conclude, therefore, that we can account for word order within the ECC in Bg and Mac (more precisely, the fact that the structural height of relevant elements prior to the ECC formation corresponds to the left-to-right order within the ECC) without employing rightward adjunction.

The analysis of (1a-b) and (9a) presented here is essentially forced on us by economy of derivation, the clitics-as-non-branching-elements hypothesis, and the LCA. All the crucial ingredients of the analysis are forced, or more appropriately, provided for free, by one of these three mechanisms. The clitics-as-non-branching-elements hypothesis forces generation of clitics in Spec positions, economy of derivation imposes a particular ordering of clitic adjunctions, and the LCA forces the adjunctions to proceed to the left. The fact that the mechanisms in question conspires to force an analysis that turns out to give us exactly what we need empirically provides strong evidence for the mechanisms involved.

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Notes

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2. The latter is illustrated by Mac (i), which is in Bošković (2001a,b) analyzed as involving head movement of the V+clitic cluster in front of *li*. (*Li* is standardly considered to be an interrogative C. It is analyzed somewhat differently in Bošković (2001b) but still located high in the structure.)

(i) a. [Mi go dade]_i li Petko t_i včera?

me.dat it.acc gave Q Petko yesterday

‘Did Petko give it to me yesterday?’

b. [Si mu gi dal]_i li ti t_i včera?

are him.dat them.acc given Q you yesterday

‘Did you give them to him yesterday?’

Bg *li*-constructions involve interfering factors since they are standardly assumed to involve PF word re-ordering. Recent literature (see Bošković 2001a,b and Rudin, Kramer, Billings, and Baerman 1999) also analyzes them as involving head-movement of the V+clitic cluster. (Bošković analyzes them as involving head-movement in front of *li*, followed by an application of a word re-ordering mechanism in PF.) The question of how Bg *li*-constructions should be analyzed is too complex to go into here. For relevant discussion, see the references above as well as Rivero (1993), Franks (1998), Franks and King (2000), Izvorski, King and Rudin (1997), and King (1996), among others.

3. The ungrammaticality of (3) is particularly significant in light of the fact that we are dealing with languages with a considerable freedom of word order. As noted in Avgustinova and Oliva (1991), Franks and King (2000: 237, 290), Krapova (1997, 1999), Legendre (2000), and Oliva (1998), for some speakers a few short adverbs can actually occur between the clitic cluster and the following

verb in Bg and Mac. However, Bošković (2001b) shows that the adverbs in question are themselves clitics and therefore part of the clitic cluster. Non-clitic adverbs, such as *včera* ‘yesterday’ and *nabârzo* ‘quickly’, cannot be placed between the clitic cluster and the following verb in Bg. Mac patterns with Bg in all relevant respects discussed below. I will illustrate the relevant points with Bg constructions.

4.If they were, (4a) and (4b) could not involve constituent ellipsis (see Stjepanović 1998a:531-532 for a more detailed discussion, which I cannot go into here due to space limitations).

5.If the accusative clitic could be higher than the dative clitic we would have a constituent that contains the dative clitic (in addition to the verb), but not the accusative clitic.

6.To give one more example from Bošković (2000) concerning the clitic cluster, even phonologically overt material can break the clitic cluster in SC, as shown in (i). (The material must contain a separate intonational phrase (the parenthetical in (i)) for prosodic reasons discussed in Bošković 2000). The Bg counterpart of (i) is unacceptable (see (ii)). Notice also the contrast between SC (i) and (iii), which confirms that the auxiliary clitic is higher in the structure than the pronominal clitic. (Bošković 2001b gives the same kind of argument that the dative clitic is higher than the accusative clitic.)

(i) Oni *su*, kao što *sam vam* rekla, predstavili *se* Petru.
 they are as am you.dat said introduced self.acc Petar.dat
 ‘They, as I told you, introduced themselves to Petar.’

(ii) *Te *sa*, kakto *ti* kazax, predstavili *se* na Petūr.
 they are as you.dat told introduced self.acc to Peter
 ‘They have, as I told you, introduced themselves to Peter.’

(iii) *Oni *se*, kao što *sam vam* rekla, predstavili *su* Petru.

7.I am using AgrPs in (7)a-b because most relevant literature places pronominal clitics in Agr. (The fact that Bg and Mac have clitic doubling has led most researchers to generate pronominal clitics outside of VP.)The precise identity of the maximal projections in (7) actually does not affect the

argument about to be given and should not be attached much importance. In fact, in the bottom-up system of Bare Phrase Structure (see Chomsky 1994), where the powerful mechanism of "generating under" is not available, it would be trivially determined. Notice also that I will not discuss here issues concerning the driving force for the ECC formation, since they do not affect our central theoretical concerns. See, however, fn. 13 for some relevant discussion.

8. Under the standard analysis, the order of clitics within the cluster ultimately follows from the hierarchical arrangement of projections where they are generated, which may be universal. (English is assumed to have the same hierarchical arrangement.) Notice that if we assume that clitics are generated in the same head projection, we will be faced with the problem of how to derive the order within the clitic cluster. (E.g., we would need language specific and/or clitic specific mechanisms to get the order dative clitic-accusative clitic, which in the standard analysis follows from the plausibly universal Agr_{IO}P-over-Agr_{DO}P hierarchy, which is moreover not clitic specific.) Furthermore, assuming that clitics are generated under the same head position would involve positing multiply-headed phrases (i.e. phrases projected by more than one head), standardly assumed not be possible.

9. An anonymous referee suggests a leftward-adjunction account of (1a), based on his/her suggestion that the base-generated order of the relevant elements is V-acc-dat. (Successive head movement with leftward adjunction would then derive the dat-acc-V order.) The account cannot be extended to (1b) and (9a). (It would force us to assume that the auxiliary and the negative clitic are generated below the verb and the pronominal clitics.) Furthermore, there is independent evidence that the dative is higher than the accusative. First, notice that we are dealing here with the double object NP NP construction, not the NP PP construction, where the dative is higher than the accusative even in English (see Barss and Lasnik 1986). The contrast between SC (4b) and (5) also shows that the dative clitic is higher than the accusative clitic (see also fn. 6). Bošković (2001b) and Stjepanović (1998b) give a battery of additional tests to this effect involving clitics. Bošković (1997a) also shows on the basis of Superiority effects in Bg that the dative is higher than the accusative. (A dative wh-

phrase must undergo wh-movement before an accusative wh-phrase in Bg double object multiple questions.)

10. Of course, clitics are also defined prosodically as elements that do not bear stress underlyingly.

11. The aux-as-a-spec analysis is the only possibility given that the auxiliary clitic cannot be analyzed as a head taking a complement, since then it would be branching, or as a complement itself, in which case it would prematurely close the structure with no room being left for the VP *rabotil včera*, given binary branching.

12. Rivero (1997) also places Bg pronominal clitics in a specifier.

13. Being ambiguous XP/X⁰ elements, clitics can undergo head-adjunction. As a technical implementation of the adjunction, we can assume that the main verb is lexically specified with an Attract All property in the sense of Bošković (1999) for pronominal and auxiliary clitics. The verb then attracts all pronominal and auxiliary clitics. In Bošković (1999) I show that multiple movement to the same element as a result of an application of the Attract All mechanism generally results in free ordering of elements undergoing the movement. However, this would not happen in the case under consideration as a result of the earliness effect of economy of derivation discussed directly below.

It is worth noting here that Kayne (1994) suggests that clitics do not adjoin to the finite verb. One can, however, easily make room for such adjunction in Bg and Mac, which seems necessary on empirical grounds, while still maintaining the gist of Kayne's system. (Kayne's suggestion was based on certain assumptions about the LCA and the sub-word level structure that do not seem necessary.)

14. If multiple adjunction to the same head is not allowed, as argued by Kayne (1994), the dative clitic would actually left-adjoin to the accusative clitic, which is itself left-adjoined to the verb.

15. An anonymous reviewer notes that under the current analysis, the ECC ends up being a bit higher in the structure than under the rightward movement analysis. Unfortunately, I do not know of a way of capitalizing on this difference between the two analyses to tease them apart empirically.

16. Richard Kayne (personal communication) observes that the desired result can also be achieved by appealing directly to Pesetsky's (1989) Earliness Principle. Adopting Bošković's (1998) version of Chomsky's (1995) definition of strong features (i.e. features that drive overt movement), according to which strong features must be checked as soon as possible, would also have the desired result.

17. In Bošković (2001a,b) I show that the clitic *li*, standardly assumed to be an interrogative marker, can also be straightforwardly handled under the clitics-as-non-branching-elements+leftward adjunction analysis. See these works for the analysis.