Serbian/Croatian/Bosnian clitics at the lexical interface
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1. Introduction

Debate within the Principles & Parameters framework over clitic cluster placement in Serbian/Croatian/Bosnian (SCB)[1] is polarised between purely syntactic accounts that stipulate a syntactic position for cliticization (Rivero 1991, Ćavar & Wilder 1993, 1994, Bošković 1995) and analyses that modify the syntactic representation via a form of phonological movement (Halpern 1995, Schütze 1994, King 1996). This paper proposes a third alternative. Adopting the independently motivated theory of syntactic and phonological lexicalization in Emonds (1985, 1997), we argue that the clitic cluster in SCB is phonologically lexicalized on the highest head in the extended projection. For Emonds, pronominal clitics are the 'Alternative Realization' of formal features on null argument XP. We revise the definition of Alternative Realization to include SCB pronominal clitics, and further argue that so-called 'clitic auxiliaries' in SCB are the Alternative Realization of features in I^0. Suppletive forms, clitichood, 'second position' effects and restrictions on licensing a movement trace follow from the phono logical lexicalization of the clitic cluster.

First, we review some problems in purely syntactic and phonological movement accounts of clitic cluster placement. We then show that the clitic cluster appears on the highest head in the extended projection. Following an outline of our theoretical assumptions in section 3, we demonstrate how the phonological lexicalization of the clitic cluster accounts for the data.

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[1] My Seattle presentation also addressed the clausal and DP clitics in Bulgarian and Macedonian. Space prevents me from taking such a cross-linguistic approach here. However, a cornerstone of this analysis is that, unlike the majority of competing accounts, this analysis is not language-specific. See Caink (1998).

2. The SCB clitic cluster position

Much dispute regarding the SCB clitic cluster has centred around Browne's (1974) observation that in data such as (1), the clitic cluster appears to follow either the first constituent or the first phonological word.

(1)a. [***Moj brat***]   ___je___   ***došao***
     my brother be-3sg. come-ppl.
  b. [***Moj je brat***] ***došao***
     'My brother has come'

Generative accounts have generally agreed that (1a) results from syntactic movement of the initial constituent to the left of the clitic cluster. Progovac (1996) and Franks (1998) argue that (1b) similarly results from syntactic movement of the initial element across the clitic cluster via 'remnant topicalization'; all but the initial phonological word is scrambled out of a constituent prior to topicalization of the remainder of that constituent.

Alternatively, Halpern (1995) and Schütze (1994) advocate variations of a phonological rule that modifies the output of the syntax: SCB clitics lacking a host to their left move rightwards into second position, cliticizing on the first phonological word.

All accounts agree that the syntactic position of the clitic cluster is higher than IP; some authors stipulate the cluster is adjoin-ed to C^0, others stipulate a separate functional projection between CP and IP (without independent motivation). In this section, we note some of the drawbacks of these competing accounts before arguing that the true descriptive generalization is that the SCB clitic cluster *appears on the highest head in the extended projection*.

2.1. Problems for purely syntactic accounts

Let us focus on the remnant topicalization (henceforth RT) analysis of the second position effect in (1b) (Progovac 1996; Franks 1998). Central to their account is the notion that restrictions on second position clitic placement, such as between N^0 and its

complements in (2b), are independently mirrored by restrictions on RT (2c) (data from Progovac 1996:418):

(2)a. [***Roditelji uspešnih   studenta***] ***su   se   razišli***
      parents successful-Gen. students-Gen. be-3pl. refl. dispersed
     'The parents of the successful students have dispersed'
  b. (*)***Roditelji su se uspešnih studenta razišli***
  c. *[***Roditelji* t_i**] ***su se razišli*** [***uspešnih studenta***]$_i$

These judgements are not shared by all native speakers. N. Leko finds (2b) acceptable, hence we bracket the star in the example. Further examples in the literature are equally satisfactory for some speakers (a point made by Halpern, cited in Progovac 1996:418).

(3)a. (*)[***Prijatelji su   moje   sestre***] ***upravo stigli***
      friends   be-3pl. my.Gen. sister.Gen. just   arrive-ppl.
     'My sister's friends have just arrived'   (Progovac 1996:419)

  b. (*)[***Studenti su   iz   Beograda***] ***upravo stigli***
      students be-3pl. from Belgrade   just   arrive-ppl.
     'Students from Belgrade have just arrived' (Halpern 1992:94)

Evidently this is an issue of differing dialects/languages. In terms of establishing the limits of Universal Grammar, it is more interesting to concentrate on data which is less widely attested.

    Regardless of this, the problem for the RT analysis of the second position is that while (2b) and (3) are possible to varying extents, *all* native speaker judgements agree strongly that (2c) is ungrammatical. This variation in acceptability is not predicted by the RT account.

    Further difficulties for the RT argument are encountered in the examples from Schütze (1994) in (4):

(4)a. ***Na veoma si   se   lepom mestu smestio***
    on very be-2sg. refl. nice place placed-ppl.
    'You've placed yourself in a very nice place'

b. ***U ovu je veliku sobu Jovan ušao***
  in this be-3sg. big room J. enter-ppl.
  'Jovan entered this big room'   (Schütze 1994:381,401)

Assuming Abney's (1987) DP structure $_{DP}[\ _{AP}[\ _{NP}[\ \ ]]]$, the RT account must assume that an AP has scrambled in each case, prior to topicalization of the remaining PP (contra Franks 1998, where it is assumed AP scrambling from DP is barred). Some explanation must be found for why only NP cannot scramble out of DP in just this case (hence allowing clitics to appear in 'third position following the adjective).

  Interestingly, in Bulgarian, clitics are also barred from first position and hence appear in second position, intervening within a constituent such as an AP in (5a). Yet unlike SCB, RT is *not* freely available in Bulgarian, shown in (5c).

(5)a. **{*Tvurde*/*poči*/*suvsem*} *e* *štjasliv***   (Bulgarian)
  quite/almost/rather be-3sg. happy
  'He is quite/almost/rather happy'
 b. **Izgležda {*tvurde*/*poči*/*suvsem*} *štjasliv***
  appear-3sg. quite/almost/rather happy
  'He appears quite/almost/rather happy'
 c. *****{*Tvurde*/*poči*/*suvsem*} *izgležda štjasliv***

In (5a), the clitic auxiliary intervenes between the adjective and its modifier. In (5b), the same AP constituent is the complement of the lexical verb *izgležda* 'appears'. If RT underlay the word order in (5a), it should also be possible in (5c), which it is not. This fact suggests that the RT account of second position data in SCB is at best language-specific.

  More problematic still is (6) where RT is followed by further splitting of the PP constituent by the clitic auxiliary:

(6) *??**U ovu je veliku Jovan ušao sobu***
  into this be-3sg. big J. entered-3sg. room
  'Jovan entered this large room'   (Franks 1998:17)

Assume first that *sobu* 'room' has moved out of the PP [*U ovu veliku sobu*] 'into this large room', and the remainder of the PP has then moved up. Further splitting of the PP takes place, with the clitic auxiliary following the first phonological word: the proclitic P and the determiner *U ovu* 'into this'.

A highly significant fact is that the acceptability of a construction such as (7a) becomes less acceptable if the clitic cluster contains a greater number of morphemes (Browne 1975:114; Radanović-Kocić 1996:436), as in (7b) from Franks (1998:19):

(7)a. ***Lav je   Tolstoj veliki ruski pisač***
    L. be-3sg. T.   great Russian writer
   'Leo Tolstoy is a great Russian writer'
  b. ****Lav mi   ga   je   Tolstoj poklonio***
     L. 1sg.Dat. 3sg.Acc. be-3sg. T.   give-ppl.
     'Leo Tolstoy gave it to me'

In (7a), the clitic auxiliary intervenes between a first and second name. In (7b), three clitic elements in this position render the example ungrammatical for some speakers. It is difficult to see how a purely syntactic account could ever cope with such facts. Note also that in recent attempts to account for clitic cluster placement in grammatical (7a), we are provided with no more than a promissory note based on the distribution of inflectional morphemes (Franks 1997:5; Bošković 1997).

Finally, there is a further case of second position placement termed 'long head movement' in Lema & Rivero (1988) in which the clitic cluster follows a non-finite verb:

(8) ***Odgovorio   je   na njihovo pitanje***
   answered-ppl. be-3sg. on their   question
   'He answered their question'

Rivero (1991) and Roberts (1994) propose that the participle has moved up to C^0 via a 'relativized' head movement, crossing the auxiliary. Independent evidence for this addition to the typology of movements is poor, as is the exact distinction of A and A-bar heads

in such an account. Instead, Ćavar & Wilder (1994)/Wilder & Ćavar (1994) argue erroneously that both the participle and clitic auxiliary in (8) are in C^0 (but see data below from Bošković 1995). Bošković (1995) stipulates optional weak/strong features and optional left or right adjunction in a single language in order to account for the array of participle-clitic cluster data in SCB. All of these purely syntactic approaches resort to *ad hoc* accounts of motivation for syntactic movement and the latter two are language-specific accounts, despite the existence of a [participle-auxiliary] construction like (8) in, say, Bulgarian. See Caink (1995) for discussion.

To conclude, the remnant topicalization account of second position data requires the marginalization of some data that many speakers find acceptable. There is a mismatch between restrictions on remnant topicalization and clitic cluster placement which is not predicted by purely syntactic accounts. Finally, the acceptability of the clitic cluster in the second position may be substantially decreased if more items appear in the clitic cluster, an unlikely result of purely syntactic operations.

2.2. The drawbacks of phonological movement

'Prosodic Inversion' PI (Halpern 1995, Schütze 1994, King 1996) attempts to account for (1b) via a phonological movement rule: if the output of the syntax leaves a clitic without a host to its left, the clitic is moved to second position following the first phonological word.

On a conceptual level, the question remains whether we wish to accept the notion of a phonological movement rule, and the lack of restrictiveness this would appear to allow in our system. In comparison to the widespread displacement effects in the syntax cited as evidence for syntactic movement, examples such as (1b) are not strong evidence for a 'phonological move α'. Furthermore, no version of PI is underpinned by any theory of syntactic categories that predicts which items may be 'clitic' and hence which may be moved in the phonology.

Empirical problems also arise. PI is not predicted to occur in the following contexts (data from Ćavar & Wilder 1993:37,41):

(9)a. ***Imaš*** [***mnogo vremena čitati ga***]
　　　 have-2sg. much　 time　　 read-inf. 3sg.Acc.
　　　 'You have much time to read it'
　　b. ***Ivan je vidio auto*** [***i kupio ga je***]
　　　 I.　 be-3sg. see-ppl. car　 and buy-ppl. 3sg.Acc. be-3sg.
　　　 'Ivan saw the car and bought it'

The [V^0 - clitic cluster] word order follows, in (a), a noun, and in (b) the conjunction *i* 'and', in both cases without a prosodic break. This lack of prosodic break provides no context for PI to be triggered, yet in both cases the clitic cluster follows the non-finite verb[2].

2.3. A default position: the highest head in the extended projection
　　Largely on account of evidence such as (10), a number of authors have suggested that the SCB clitic cluster is always right-adjoined to C^0 (Ćavar & Wilder 1994, 1997; Progovac 1996, Schütze 1994), or have proposed a separate CleftP between CP and IP to host the clitics (Halpern 1995).

(10)a. ***Stefan tvrdi da mu ga je Petar poklonio***
　　　 S.　　 claims that 3sg.Dat. 3sg.Acc. be-3sg. P.　 give-ppl.
　　　 'Stefan claims that Peter has given it to him as a present'
　　b. *****Stefan tvrdi da Petar mu ga je poklonio***

The cluster follows the complementizer and precedes the subject in (10a). (10b) indicates the cluster cannot follow the subject. We concur that the clitic cluster in (10a) appears to be in C^0. However, as a descriptive generalization, we maintain that the 'clitics in C^0' approach is inadequate, and propose (11) instead.

(11) ***Descriptive generalization***: SCB clitics are adjoined to the highest head of the extended projection.

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[2]　Schütze (1994) assumes Rivero's (1991) account of [participle - auxiliary] constructions, such as in (9b). However, the trigger for participle movement in Rivero's account is similarly absent in (9b).

In other words, we avoid stipulating a specific head under which the clitic cluster appears. Assuming that CP is part of the extended projection of V (Grimshaw 1991), then (11) captures the fact that in (10a) the clitic cluster is in C^0. However, the claim is that the clitic cluster does not *always* appear in C^0.

The drawback of stipulating that clitics always appear in C^0 is that one is forced to stipulate the presence of a CP whenever a clitic is present. However, there are reasons to believe that a CP is not always present when a clitic cluster appears. We have three arguments against the 'clitics in C^0' position:

(i) *Parsimony:* In theoretical terms, it is preferable not to stipulate a full CP in the absence of any independent motivation in, say, (1) and (3).

(ii) *Adverb data:* Bošković (1995) has shown that the interpretations derived from the scope of adverbs *pravilno* 'correctly' and *mudro* 'wisely' indicate that the clitic cluster must be below C^0 in the 'long head movement' construction. When the adverb is adjoined to IP in (12), the interpretation is ambiguous between a subject-oriented and manner reading.

(12) ***Jovan je*** IP[***pravilno odgovorio Mariji***]
     J.   be-3sg. correctly answere-ppl. M.
     'Jovan did the right thing in answering Maria'
     'Jovan gave Maria a correct answer'

When the adverb takes VP scope in (13), the sentence has the manner reading only.

(13) ***Jovan je***   ***odgovorio***   ***pravilno*** VP[***Mariji***]
     J.   be-3sg. answer-ppl. correctly   M.
    *'Jovan did the right thing in answering Maria'
     'Jovan gave Maria a correct answer'

In (14), the so-called 'long head movement' construction (Rivero 1991), the adverb follows both the past participle and the clitic

auxiliary. If the clitic auxiliary were in C^0, then the adverb should be adjoined to IP and yield the same ambiguity as (12). In fact, the subject-oriented reading is blocked, as in (13), which suggests the adverb in (14) cannot be adjoined to IP.

(14) ***Odgovorio je pravilno Mariji***
    answered-ppl. be-3sg. correctly M.
    *'He did the right thing in answering Maria'
     'He gave Maria a correct answer'   Bošković (1995:249)

The fact that the adverb can only be adjoined to VP in (14) undermines the argument that the clitic cluster is always in C^0.

(iii) *Gerund clauses are not CP:* Consider the following example of a gerund construction from (Ćavar & Wilder 1993):

(15) [***Dajući joj ružu***], ***Damir ju je poljubio***
    giving 3sg.Dat. rose   D.   3sg.Acc. be-3sg. kiss-ppl.

Again, those who advocate that the clitic cluster appears in C^0 are forced to assert that a gerund is a full CP.

However, Franks (1995:259) demonstrates that Russian gerunds are not CP because there is no WH-movement. Similar data can be constructed for SCB. Hence in (16), it is not possible to form a relative clause via WH-movement out of a gerund and in (17), WH-movement is not possible out of a gerund:

(16)a. *[***Knjiga*** [***koju***$_i$ [***čitajući***   *t*$_i$]]
       book   which.Acc. reading
  b. *[***žena*** [***koju***$_i$ ***je***   ***umro***   [***voleći*** *t*$_i$]]
    woman who-Acc. be-3sg. die-ppl.masc. loving

(17)a. ***Ivan je ušao u sobu*** [***čitajući pismo***]
     I.   be-3sg. enter-ppl. into room reading letter
     'Ivan entered the room reading a letter'

b. *_Šta je Ivan ušao u sobu_ [_čtajuć_ t_i]**?**
what be-3sg. I. enter-ppl. into room reading
'What did Ivan enter the room reading?'

If gerund constructions are not CP, then the clitic cluster cannot be in C^0.

In a gerund construction, what position does the clitic cluster appear in? We have established that gerunds are not CP; in fact, the evidence suggests that gerunds are not IP either. Gerunds cannot be conjoined with an infinitival IP:

(18) _**Marija je htjela Ivan dati knjigu i…**_
M. be-3sg. want-ppl. I.Dat. give-inf. book and

…*razgovarajuć / _razgovarati s njim_
talk-gerund talk-infinitive with him
'Maria wanted to give Ivan the book and talk with him'

An infinitival IP can appear as a complement to N, but a gerund cannot:

(19)a. _**Imaš vremena čtati knjigu**_
have-2sg. time read-inf. book
'You have time to read the book'
b. _***Imaš vremena razgovarajuć s njim**_
have-2sg. time talking with him

Finally, an infinitival IP may appear as a complement to verbs like _htjela_ 'want', whereas gerunds cannot:

(20)a. _**Marija je htjela Ivanu dati knjigu**_
M. be-3sg. want-ppl. Ivan-Dat. give-inf. book
'Maria wanted to give Ivan the book'
b._***Marija je htjela razgovarajuć s njim**_

In conclusion, we assume that an SCB gerund is a bare VP. The only head position for the clitic cluster to attach to is therefore V^0. This is still the highest head available, hence (11) holds true.

2.4. Licensing a movement trace

An important issue observed in Rivero (1991) but which has so far received no explanation concerns the clitic auxiliaries' inability to license a movement trace in (21a). In contrast, full form auxiliaries can license a movement trace, for example (21b):

(21)a. *[**Pio   vina**]$_i$ **sam** t_i
      drink-ppl. wine be-1sg.
      'I have drunk wine'
   b. [**Pio   vina**]$_i$ **jesam** t_i
      drink-ppl. wine   be-1sg.
      'I *have* drunk wine'

In (a), the VP cannot be topicalized across the clitic auxiliary *sam* 'am'; in (b), a full form emphatic auxiliary *jesam* 'am' can license a VP trace. We will argue that this boils down to PF head licensing (Aoun *et al.* 1987). The clitic auxiliary is not 'visible' for head government at the relevant level at which PF licensing applies whereas the full form is visible. We relate these facts in section 3.1 to the Phonological Lexicalization of the clitic auxiliaries.

2.5. Conclusions: an alternative account is required

Empirically, neither the purely syntactic account nor the phonological movement accounts are fully adequate to deal with the second position effects in SCB. On the one hand, a simple requirement of a prosodic gap preceding the clitic is not the whole story in triggering 'last resort' second position effects, for e.g. (9). On the other hand, a purely 'remnant topicalization account' can deal with some, but not all, second position data and to date provides only a promissory note with respect to a syntactic analysis of the infamous data in (7a).

In contrast to stipulating a fixed head to which clitics (inexplicably) adjoin in the syntax, we have asserted the descriptive

generalization that SCB clitics appear on the highest head in the extended projection available. Evidently, this is a major problem for any account that assumes syntactic movement of the clitics (which includes *all* the above accounts): what feature is it that can be checked on more than one head and which can be independently justified? Indeed, what is the nature of the clitic auxiliary that allows it to behave in the same way as the pronominal clitics, appearing on, say, C^0 in (10a)? Most accounts remain silent on these issues, or merely stipulate 'clitichood' as the defining, but unrevealing, characteristic.

Accounts which advocate an AgrP hierarchy, where each pronominal clitic represents a separate AgrP projection are not particularly revealing of morpheme order or clitic cluster placement in South Slavic generally (Rudin 1996, Franks 1998). Essentially, such approaches stipulate a template in the syntax. In what follows, we shall assume Bonet's (1991) arguments in favour of a morphological template, and concur with Schütze (1994) that the clitic cluster is lexicalized as a single unit. Unlike the latter account, we do not assume all lexical insertion to be at PF.

3. Theoretical assumptions
3.1. Syntactic and Phonological Lexicalization

We assume the lexicalization theory developed in Emonds (1985, 1994, 1997) in which features independently required in the lexical entry of an item determine the level of lexicalization. A lexical entry that contains features interpretable at LF triggers syntactic insertion. Examples include all open class items (which contain purely semantic features) and closed class items whose lexical entry includes a formal feature with semantic interpretation at LF (e.g. [+animate]). In contrast, a morpheme whose entry contains no feature required at LF is, by economy, not inserted into the syntax. It is 'phonologically lexicalized'. Examples of such items in English are closed class inflectional morphology on the finite verb and semantically null auxiliary verbs in English *do*, *be*, and *have*.

The mechanism of Phonological Lexicalization works bottom-up, targeting each projection at a time, and inserting closed class

lexical items which can be seen as 'place-holders' for formal features in the computational syntax.

Caink (1998) develops the mechanism of 'phonological lexicalization' further. Following Collins (1997), it is assumed that economy is a feature of the system as a whole. Phonological lexicalization is hence subject to an economy restriction essentially similar to that which tends to limit Attract to the covert syntax. Phonological lexicalization of closed class morphemes are inserted as late as possible in the extended projection, modulo language-specific and item-specific contextual restrictions. An example of such a contextual restriction is +V___ for inflectional morphemes in English; the inflectional morpheme is phonologically lexicalized on a verb. In contrst, we shall see that the SCB clitic cluster portrays the default case, being lexicalized on the last head in the extended projection available.

3.2. Pronominal clitics as 'Alternative Realization'

Emonds (1987) argues for the mechanism of 'Alternative Realization' whereby a closed class feature may be alternatively realized on another node in the tree, via sisterhood:

(22)a. *Alternative Realization* (AR): A syntactic feature F matched in UG with category B can be realised in a grammatical morpheme under X^0, provided X^k is a sister of [B, F].   (Emonds 1987, 1997)

b.
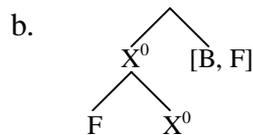
In (22b), B is a sister to X^0, hence F may be alternatively realized under X^0. As a result, B may be null. Examples of this include the features of I^0 in English, which may be alternatively realized on V, VP being a sister to I^0; dative case in many Indo-European languages is the AR of an empty P; 'semantic' cases in Finnish are the Alternative Realization of empty P.

Emonds (1997) argues that Romance pronominal clitics are a further instance of AR: the closed class formal features associated with argument XP can be alternatively realized on V. AR allows the argument XP to be possibly null; languages, however, vary over whether and under what circumstances 'clitic doubling' may occur. Referring to (22b), clitic doubling is a subset of the cases where both B is overt and F is realised on X^0.

Henceforth, we regard pronominal clitics in SCB as the AR of formal features (case, φ-features) of argument phrases inside VP[3]. Significantly, AR morphemes play no role at LF, hence are subject to Phonological Lexicalization. In SCB, they include the contextual specification +X___, indicating they are enclitic on a host to the left. Recall that Phonological Lexicalization works by extended projections, hence we assume that contextual restrictions must be satisfied within an extended projection.

However, Emonds' structural definition in (22) does not predict the distribution of SCB pronominal clitics: in, say (10a), the pronominal clitics are evidently *not* in a sisterhood relation to argument phrases within VP. We therefore revise (22) in terms not of sisterhood but of extended projections:

(23) *Revised Alternative Realization*: A syntactic feature F matched in UG with category B in the extended projection of Y may be realised in a grammatical morpheme under X^0, X^0 being part of the extended projection of Y^0.

Focusing on pronominal clitics, informally an argument phrase within VP may be null if the formal features are alternatively realized on a head within the extended projection of the verb. Languages then differ in terms of the contextual restrictions carried by the AR morphemes. In Bulgarian and Macedonian, pronominal

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[3] In SCB, pronominal clitics generally license argument phrases to be null. In Macedonian, clitic doubling is obligatory for specific direct objects, and in Bulgarian, clitic doubling occurs with topicalized objects (Rudin 1997). The presence of clitic doubling in these languages may be related to the absence of nominal case inflections, in contrast to SCB. Our concern here is to determine the nature of pronominal clitics and the structural relation that exists between them and the respective argument phrases, not the way in which individual languages utilize the AR mechanism.

clitics are specified to appear on a [+V] head. SCB pronominal clitics, however, are not specified to appear on a head with any particular categorial features. Accordingly they may appear on any head in the extended projection. Economy and the bottom-up nature of the Phonological Lexicalization mechanism conspire to ensure the SCB clitics appear on the highest head in the extended projection.

3.3. The clitic auxiliary and PF head licensing

So far, we have considered only the pronominal clitics. The clitic auxiliaries are also subject to Phonological Lexicalization, given that they contain no features required at LF. Indeed, we see in data such as (10a) that the clitic auxiliary may also appear as high as C^0. In contrast, in Bulgarian and Macedonian, the clitic auxiliaries always appear in I^0 (Mišeska Tomić 1996).

We propose that the SCB clitic auxiliaries have no categ-orial feature specification, whereas Bulgarian and Macedonian clitic auxiliaries are specified [+V,-N]. This is tantamount to asserting that the SCB clitic auxiliaries are *not* auxiliary verbs at all. Indeed, in this account they are rather the Alternative Realization of features in I^0. They are therefore formally equivalent to an inflectional bound morpheme hosted by the verb in English. The single difference is that in English, inflectional morphemes are specified to appear on a verb, whereas the SCB 'clitic auxiliary' is specified as simply +X___. In a CP, the I^0 features in SCB are realized on C^0, in the same way as occurs in certain dialects of Dutch (Zwart 1996). The example is (10a). In an IP, the features are realised on I^0, as in (1a), (2a) and (3).

Finally, we assume that a trace must be head-governed at PF (Aoun *et al*. 1987) prior to the level at which Phonological Lexicalization occurs. Consequently, the clitic auxiliaries in all South Slavic languages are not 'visible' at the relevant level to license a movement trace, hence they are unable to license a trace in (21a). In Caink (1998), this is related to the inability of English clitic auxiliary forms to license a movement trace:

(24)a. ***Where**$_i$ **do you think he *'s/is** t_i **today?**

b. *I wonder what$_i$ John *'s/is t_i now*

In (a) and (b), the clitic auxiliary is not visible for head government on account of its phonological lexicalization.

However, the full form auxiliary in (24) is able to license a movement trace, suggesting it is lexicalized into the syntax. In the same way, full form auxiliaries in SCB are able to license a movement trace. Let us consider what triggers syntactic insertion of the SCB full form auxiliaries. Consider (25):

(25) *Nedzad tvrdi da* (a) *Ivan i Marija <u>jesu</u> ătali knjigu*
　　　N.　　claims that　I.　and M.　be-3pl. read-ppl. book
　　　'Nedzad claims that　...Ivan and Maria *were* reading the book'

　　　　　　　(b) …*Ivan i Marija <u>nisu</u>　　ătali knjigu*
　　　　　　　　　I.　and M.　neg.be-3pl. read-ppl. book
　　　　　　　　'...Ivan and Maria were not reading the book'

　　　　　　　(c) *...su　Ivan i Marija ătali　knjigu*
　　　　　　　　　be-3pl. I.　and M.　read-ppl.pl. book
　　　　　　　　'...Ivan and Maria were reading the book'

In (25a) and (25b), we see declarative and negative full forms respectively, and in (c), the 'clitic auxiliary' form adjoined to C^0. Full form declarative auxiliaries in SCB yield an emphatic assertion reading, as shown in (25a), unlike the clitic auxiliaries (25c). We assume the lexical entry of the declarative full form auxiliaries contain an LF-interpretable feature, call it [+FOCUS]. The same feature appears on the English auxiliary *do*, yielding a similar emphatic assertion in contemporary English. The lexical entries of the negative full form auxiliaries such as in (25b) contain the feature [+NEGATION].

Both [+FOCUS] and [+NEGATION] are required at LF, hence in Emonds' system, trigger syntactic insertion. Consequently, full form auxiliaries are visible for head-government, hence they are able to license a movement trace. As we would expect, they appear in I^0 to check features, just as finite lexical verbs.

4. Last resort Phonological Lexicalization

In Emonds (1985:chapter 4), a characteristic of closed class lexical items is the fact that they often display suppletive morphology and may be bound morphemes, requiring a host. Such phonological idiosyncrasies can be seen as a reflection of Phonological Lexicalization.

For Emonds, however, Phonological Lexicalization is no more than 'extra-syntactic'. However, SCB (and Bulgarian) indicate that Phonological Lexicalization is subject to further prosodic idiosyncrasies. We have suggested that the contextual restriction +X___ in the lexical entry of a clitic must be satisfied within the domain of phonological lexicalization, the extended projection. If the output of the syntax is such that the clitic has no host to its left within the extended projection, then a 'last resort' lexicalization occurs following the first phonological word.

In terms of the data discussed in this article, we analyse (1a), (2b), (4), (6), (7a) and (8) as cases of 'last resort' phonological lexicalization. In none of these cases is a CP projected. We assume subjects in (1a), (2b), (3) and (7a) are in specVP, with 'last resort' insertion following the initial word. In (4) and (6), PP appears in a scrambled position below I^0, and the clitic cluster is lexicalized again following the first phonological word. We analyse 'long head movement' (8) in the same terms[4].

To some extent, last resort phonological lexicalization is empirically similar to Prosodic Inversion. It differs on account of its avoidance of a phonological movement rule, and in being underpinned by an independently motivated theory of syntactic categories. This account relates the second position effect to a cluster of characteristics centring around the mechanism of Phonological Lexicalization. Emonds' system predicts that inflectional morphology, AR morphemes, and semantically null auxiliaries, all containing no LF-interpretable features, undergo phonological lexicalization. We assert that only a subset of these may undergo last resort insertion into the second position.

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[4] See Caink (1995) for such an analysis of so-called 'long head movement' in Bulgarian.

Further empirical differences from PI exist. In a case such as (9b), repeated here, the clitics are in a second position following a non-finite V^0, yet there is no preceding prosodic gap to trigger either rightward phonological movement of the clitic or leftward syntactic movement of the V^0. In our account, the crucial factor is the lack of a host within the extended projection (bracketed in (26)):

(26) ***Ivan je   vidio   auto i*** [***kupio   ga   je***]
     I.   be-3sg. see-ppl. car and buy-ppl. 3sg.Acc. be-3sg.
    'Ivan saw the car and bought it'

If the clitics are lexicalized on I^0, it being the highest head available, they would be in first position in the extended projection, hence the contextual restriction +X___ would not be satisfied. Consequently, a 'last resort' insertion occurs following the first phonological word. In this case, the first word is the non-finite verb. There is no unorthdox 'long head movement' (Rivero 1991, Roberts 1994) of the verb, nor phonological movement of the clitics.

5. Summary
The SCB 'clitic auxiliary' is not a member of one of the major classes N, A, V, and P and has no categorial feature specifi-cation. Rather, it is a morpheme alternatively realizing features in I^0. Similarly, pronominal clitics are the Alternative Realization of argument phrases inside VP. The clitic cluster as a whole must therefore appear on a head in the extended projection of the verb. In SCB, the cluster appears *on the highest head in the extended projection* as a result of a combination of economy and the bottom-up nature of Phonological Lexicalization. Hence, in a CP, the clitic cluster appears on C^0; in an IP, on I^0; and in demonstrable cases of bare VPs (e.g., gerund clauses), the cluster appears on V^0. If a clitic does not have a host within the domain of phonological lexical-ization (the extended projection), then last resort insertion occurs following the first phonological word. The phonological lexical-ization of a clitic auxiliary prevents the auxiliary from being visible for head government.

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