

TWO INCOMPATIBLE GRAMMARS DEFINE SECOND POSITION IN SERBO-CROATIAN

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Several Slavic languages require that clitics occur in the second position of sentences; however, these languages differ on how they define second position. Serbo-Croatian is unique among them in that, while clitic position would seem to be an issue of word order and therefore a syntactic operation, second position can be defined phonologically, as well as syntactically. This use of both syntax and phonology to determine clitic placement has intrigued linguists for decades.

Many scholars have proposed entirely synchronic, single-grammar, approaches to clitic placement in Serbo-Croatian (Anderson, 2000, 2005; Bošković, 2001, 2002; Halpern, 1992, 1995; Klavans, 1985; Progovac, 1996; Radanović-Kocić, 1980; Stjepanović, 1999, Schütze, 1994); however, none have been able to account for the optionality between the phonological and syntactic definitions of second position. Interestingly, some of the same scholars who propound accounts using single cohesive grammars have also observed that clitic placement is in transition in Serbo-Croatian (Radanovic-Kocic, 1988; Rubadeau, 1996; Alexander, 1993; Browne, 1975). Despite recognizing that this aspect of the language is changing and cannot be readily explained a single grammar, scholars have not proposed a solution which uses multiple active grammars for this puzzle.

I assert that the current state of clitic placement in Serbo-Croatian is produced by two incompatible grammars, precisely what Kroch (1989) predicts for a language in transition. Currently, a grammar which places clitics after the first prosodic word in a sentence is being replaced by another which places clitics after the first syntactic constituent. Both grammars are active in the speech community. This shift in clitic position from the prosodic to the syntactic has occurred in other languages, both within and outside of the Slavic family, and may point to a directional tendency in language change.

1. Introduction

Serbo-Croatian is unique among Slavic languages because it permits two possible clitic positions in subject-initial sentences. These clitics must occupy second position, but this position can be defined either syntactically or prosodically. The syntactic definition of second position requires that the clitic follow the first syntactic constituent as shown in (1), where the clitic *je* follows the determiner phrase (DP), *taj čovjek*.

- (1) Taj čovjek **je** voleo Mariju
 that man AUX-3rd-SG loved Maria
 ‘That man loved Maria’ (Halpern, 1992)

The other definition of second position is following the first prosodic word, that is (i.e. the first stressed word), even if this causes the clitic to intervene in a syntactic constituent. The result is the prosodic definition of second position is shown in (2).

- (2) Taj **je** čovjek voleo Mariju
 that AUX-3rd-SG man loved Maria

In this form, the clitic follows the first prosodic word, *taj*, intervening in the DP.

There is no obvious syntactic justification for this prosodic definition of clitic position, but the phonological motivation is clear: the clitic must attach to the right of a prosodic word within the same phrase (Wackernagel). These two definitions have been considered to be in free variation (Halpern, 1992) and have no difference in their semantic interpretation.

Previous approaches have attempted to account for the optionality between these two definitions with synchronic, single grammar approaches for clitic placement in Serbo-Croatian (Anderson, 2000, 2005; Bošković, 2001; Halpern, 1992, 1995; Klavans, 1985; Progovac, 1996; Radanović-Kocić, 1988; Stjepanović, 1999, Schütze, 1994; Wilder and Ćavar, 1994). Yet, none have been able to account for the optionality between the syntactic and phonological definitions of second position.

The fact that the language of Serbo-Croatian is changing is incontrovertible.¹ Relevantly, several scholars observe that clitic placement is in transition in Serbo-Croatian (Radanović-Kocić, 1988; Rubadeau, 1996; Alexander, 1993; Browne, 1975), including some who advocate a single-grammar account. Yet, even with the recognition that clitic placement in Serbo-Croatian is in a state of change and the inability to account for this phenomenon with a single cohesive grammar, a solution which uses multiple active grammars has not yet been proposed for this puzzle.

I present a two-grammar solution to account for second position clitic placement in Serbo-Croatian in section 2, and discuss the effects of the presence of two grammars in a speech community in section 3. Section 4 includes a brief exploration of the prosodic and social motivations behind this shift from prosody to syntax. Section 5 outlines shortcomings of previous single-grammar approaches.

2. The two-grammar approach to clitic placement

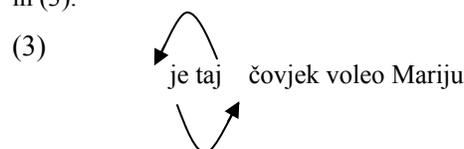
I propose that Serbo-Croatian clitic placement is determined by two incompatible grammars, which Kroch (1989) notes can indicate a language is in

¹ The Ethnologue retired the language name *Serbo-Croatian* in favor of *Bosnian, Croatian, and Serbian* in 2005 (Gordon, 2005).

transition. I assert that one grammar employs a phonological mechanism for clitic placement in subject-initial sentences. This grammar is currently dying out and a grammar which uses the syntactic definition of clitic position for these sentences is becoming dominant. Both grammars are currently active in the language.

2.1 Grammar with prosodic definition of second position

I assert that one of the two active grammars in Serbo-Croatian places clitics in second position through the mechanism of *prosodic inversion*. This results in the clitic placement in such forms as (2). Halpern (1992, 1995) proposes *prosodic inversion* to generate forms where the clitic intervenes in the DP. In *prosodic inversion*, at the output of syntax, the clitic is phrase-initial, as shown in (3).



Prosodic inversion permits the stressless clitic, *je*, to invert with the first prosodic word, *taj*. This movement occurs in the phonology to satisfy the requirement that the clitic attaches to the right of a prosodic word, even though it causes the clitic to split a syntactic constituent.

I assert that this is the sole mechanism used for clitic placement in subject-initial sentences by one of the two grammars active in Serbo-Croatian. This is counter to Halpern's theory. He asserts that another mechanism exists within the same grammar which positions clitics depending on the emphasis intended in the sentence. His approach is discussed further in section 5.3.

Clearly, *prosodic inversion* is post-syntactic movement. Embick and Noyer (2001), in the framework of Distributed Morphology (DM) provide an account for this type of phonologically driven movement, which they describe as local dislocation. They claim that, after vocabulary insertion, linearly adjacent elements can switch positions to satisfy their phonological requirements.

- (4) Prosodic Inversion in Embick and Noyer (2001) description:
 $je * taj * \text{čovjek} \rightarrow (taj + je) * \text{čovjek}$

In Embick and Noyer's (2001) description, after vocabulary insertion, linearly adjacent words are in a special relation, as is shown in the left half of (4). These relations can be exchanged for new ones to satisfy the phonological requirements of the lexical items. In the case of Serbo-Croatian's *prosodic inversion*, the movement occurs to meet the clitic's prosodic requirement to be enclitic. Restating my proposal thus far, I claim that clitic position in subject-initial sentences is determined by the mechanism of *prosodic inversion*, a morphological operation which occurs after vocabulary insertion, placing clitics in the prosodic definition of second position.

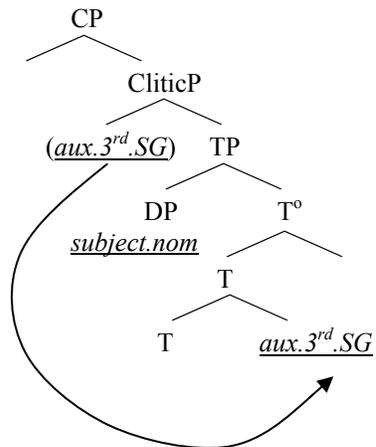
2.2 Grammar with the syntactic definition of second position

Another grammar generates any subject-initial sentence where a clitic follows the first syntactic constituent. I advocate that this grammar uses another morphological mechanism to place clitics after the first syntactic constituent, as in (1), but, unlike the mechanism described above, this operation occurs before vocabulary insertion.

Bošković (2001) proposes that Serbo-Croatian clitics lower to the right edge of the syntactic constituent to meet their morpho-phonological requirements. He asserts that this movement is due to Marantz's (1988) merger operation. I adopt Bošković's proposal and Embick and Noyer's refinements of what merger allows.

In addition to local disjunction discussed earlier, Embick and Noyer (2001) propose another type of post-syntactic movement. They claim that, prior to vocabulary insertion, morphological terminals can lower to attach to phrasal heads. For Serbo-Croatian clitic position, this means that the clitic can lower to attach to a syntactic head so that it becomes enclitic. The clitic would follow the subject if it were lowering from initial position to attach to the lower tense head, as shown in (5).

- (5) Post-syntactic lowering of the clitic from initial position to the tense head



In sum, I account for Serbo-Croatian clitic position in subject-initial sentences using a two-grammar approach, invoking DM and using Embick and Noyer's (2001) descriptions of post-syntactic movement. Other two-grammar accounts of the optionality between the two definitions of second position are possible, such as a Minimalist-Program theoretic approach where a different or even partial copy of the clitic or subject is pronounced, thus producing different alternants, or an OT-approach where different alternants are selected depending

on the constraint-ranking of one of two grammars.² Regardless of the framework, a two-grammar solution is necessary to explain how these two forms can both be in use with no difference in their semantic interpretation. Only a two-grammar account can explain why two different but semantically identical definitions of second position are possible in the same environment.

2.3 Two mechanisms, two grammars

Each grammars use both mechanisms, but the use of each mechanism is triggered by different conditions. Regardless of which grammar a speaker has, he or she uses post-syntactic lowering to place clitics in sentences where the subject is modified by a relative clause, such as that in (6).

- (6) Djevojka, koju Ivan voli, **je** fina.
 girl who Ivan likes be-3rd-SG pretty
 ‘The girl, that Ivan loves, is pretty.’
 (Wilder and Ćavar, 1994)

In addition, both grammars use this mechanism to place clitics in non-matrix clauses, as seen in (7).

- (7) Milen kaže da **ga** vidi (Progovac, 1996)³
 Milan says that him sees
 ‘Milan says that he sees him’

Both grammars employ the post-vocabulary insertion mechanism of *prosodic inversion* for verb-initial sentences.

- (8) Pročel **e** knjigata (Wilder and Ćavar, 1994)
 read has book
 ‘He has read the book.’

But the grammars differ on which mechanism is used to place clitics in sentences where the subject is phrase-initial. The chart in (9) provides a summary of which mechanism is used by each grammar depending on the conditioning environment.

² Such an account could be based on Anderson (2001, 2005), discussed further in section 5.1.1.

³ The subject of clitic-raising is discussed in greater depth in Progovac (1996). I have consulted Serbo-Croatian speakers who reject this clitic-climbing example and others who accept it. These divisions do not coincide with their variation on judgments about second position clitics.

(9) Mechanisms determining clitic position

	Receding grammar	Dominant grammar
Subject-initial sentence	<i>prosodic inversion</i>	<i>post-syntactic lowering</i>
Non-matrix clause	<i>post-syntactic lowering</i>	
Post-relative clause	<i>post-syntactic lowering</i>	
Verb-initial sentence	<i>prosodic inversion</i>	

3. Effect of two grammars

The presence of two active grammars results in variation in the speech community. This variation could be stable, but there is evidence that Serbo-Croatian is undergoing a long-term change in this aspect of its grammar. Specifically, the prosodic definition of clitic position is less accepted and syntactic forms are winning out. This can be seen in the placement of clitics with respect to proper names. It was previously acceptable for a clitic to invert into a proper name as shown in (10).

- (10) Ivo je Andrić vliki pisac (Rubadeau, 1997)
 Ivo be-3rd-SG Andrić great writer
 ‘Ivo Andrić is a great writer’

Such forms are generally no longer acceptable.

This variation in clitic placement could develop into a dialectal difference. Serbian consultants report that second-word forms sound Croatian, which may indicate that clitic position is becoming a marker between the speech communities. McLennan (1996) reports that distinct dialects are from emerging Serbo-Croatian and, among Croatians, use of Serbian dialect markers is stigmatized. This may solidify dialectal differences, eliminating prosodic clitic forms in Serbian and instilling them in Croatian.

4. A recurrent change

The proposed shift from a prosodic definition of second position to a syntactic one has occurred in other Slavic languages. Both Bulgarian and Czech once had prosodic clitic placement (Pancheva, 2005; Toman 1996, respectively) though clitic position in these languages is currently determined solely through non-phonologically motivated mechanisms. Bulgarian clitics are no longer restricted to second position but must be adjacent to the verb. Czech clitics still occur in second position but can only follow the first syntactic constituent.

Pancheva (2005) presents an analysis of the syntactic motivation for the loss of the prosodically determined clitic position in Bulgarian. This change also may have had a prosodic motivation. This section explores possible causes for the shift away from a prosodic definition of second position.

4.1 The effect of clitics on stress assignment

The loss of the prosodic clitic placement may have occurred where the clitic became prosodically indistinguishable from the rest of the word. As Alexander (1993) observes, Bulgarian clitics affect the stress assignment of the words they attached to, as does any affix. Thus, the clitic is indistinguishable from a regular affix, which may have resulted in the end of prosodic clitic placement in this language. Czech stress is invariably word-initial: enclitics have no effect on stress placement, and, as in Bulgarian, would also appear like any affix. In Serbo-Croatian, a clitic can be distinguished from an affix because the former does not contribute to the stress assignment of a word it attaches to while affixes do. Prosodic clitic placement may have endured in Serbo-Croatian and been lost elsewhere because the behavior of Serbo-Croatian clitics is prosodically distinct from that of affixes.

4.2 Prosodic phenomena

Another possibility for why Serbo-Croatian has preserved second position clitics is that it has several active prosodic processes. Serbo-Croatian has contrastive vowel length, tone, and stress. Czech has no contrastive stress and has only vowel length distinctions (Janda and Townsend, 2000). Bulgarian has only contrastive stress (Alexander, 1993). The robustness of Serbo-Croatian's prosodic phenomena is greater than that of these other Slavic languages, which suggests that the presence of prosodic clitic placement depends on this aspect of the grammar.

5. The failure of single grammar approaches

I argue that a two-grammar account for Serbo-Croatian clitic placement is superior to single-grammar approaches. Phonologically based single-grammar accounts offer only descriptions of the alternation, but provide no explanation of its cause. Syntactic single-grammar approaches cannot explain how the clitic intervenes in a syntactic constituent in forms such as that in (2). This section reviews the difficulties with major single-grammar accounts of clitic position in Serbo-Croatian.

5.1 Phonological accounts

5.1.1 Strong phonology

Radanović-Kocić (1988) posits that clitics move to second position in the phonology. Clitics are marked with the feature [+clitic]. All lexical items bearing the feature [+clitic] are moved to second position in a phonological operation. This operation can place clitics either after the first word, as shown

in (11), or after the first syntactic constituent, as seen in (12), because the definition of second position can vary.

(11) Taj (second position) čovjek voleo Mariju

↑
je
[+clitic]

(12) Taj čovjek (second position) voleo Mariju

↑
je
[+clitic]

Although this account accurately describes the phenomenon, it offers no insight into the cause of the alternation. Further, the movement to second position is merely stipulated rather than independently motivated; thus, this movement could have as easily been to third or fourth position.

5.1.2 Anderson's OT approach

Anderson (2000, 2005) presents an OT approach to place clitics in either definition of second position. He asserts that the different alternants are selected by different constraint rankings. I have constructed tableaux to show how this system could select each alternant, using Anderson's suggested constraints. For the prosodic alternant, a phrasal integrity constraint, INTEGRITY (DP), must be ranked lower than all others, as is shown in the tableau (13).

(13) Tableau for clitic position after first prosodic word

Taj čovjek je volio Milenu	INTEGRITY (WORD)	NON-INITIAL (cl _i , D)	EDGEMOST (cl _i , L, D)	INTEGRITY (DP)
Taj čovjek je volio Milenu			**!	
je taj čovjek volio milenu		*!		
☞ Taj je čovjek volio Milenu			*	*

Because the splitting of the DP only violates a low-ranking constraint, the clitic can intervene in this syntactic constituent, to reduce the violations to EDGEMOST; thereby, the candidate with a prosodic definition of second position is selected. Here EDGEMOST is a gradient constraint.

For the syntactic definition of second position to be selected, INTEGRITY(DP) must be ranked at least above the EDGEMOST constraint, as shown in (14).

(14) Tableau for clitic position after first syntactic constituent

Taj čovjek je volio Milenu	INTEGRITY (WORD)	NON-INITIAL (cl _i , D)	INTEGRITY (DP)	EDGEMOST (cl _i , L, D)
☞ Taj čovjek je volio Milenu				*(*)
je taj čovjek volio milenu		*!		
Taj je čovjek volio Milenu			*!	*

With this constraint ranking, the clitic does not intervene in the DP but follows the first syntactic constituent.

Either definition of second position can be selected with this approach, but, according to Anderson, the constraint ranking can vary freely within a single grammar. This variation could instead be explained as two separate grammars, each with their own constraint ranking; the constraint ranking in (13) would be used by one grammar to generate the prosodic definition of second position, and the constraint ranking in (14) would be used the other grammar to generate the syntactic definition.

A secondary concern with Anderson's approach is that these phonological constraints refer directly to specific syntactic categories. If phonology has full access to syntax in addition to being able to move words, then there is little division between these two modules. Thus, the OT approach is extremely powerful and unrestricted.

5.2 Syntactic accounts fail to generate the prosodic definition of second position

Approaches where the clitics move in the syntax have difficulty accounting for how the clitic could appear within a DP. Both completely syntactically based approaches (Wilder and Čavar, 1994; Progovac, 1996; Franks, 1998; Klavans, 1985) and accounts which refer to both phonological and syntactic considerations (Bošković, 2001), use marginal data to claim that the clitics can split a syntactic constituent for syntactic reasons, in forms such as (2). The proponents of these syntactic approaches assert that the demonstrative, *taj*, raises above the clitic. But they do not provide any syntactic motivation for what causes the determiner to separate from the rest of the DP. Instead, they account for the prosodic definition of second position by asserting that this demonstrative-raising is analogous to the phenomena of adjective extraction and possessor extraction.

Following this argument as it applies to adjective extraction, they claim that an adjective can raise, separating from the rest of its DP, as shown in (15) and (16).

- (15) Ivan je kupio *zeleni auto*
 Ivan AUX-3rd-SG buy-PTC green car
 ‘Ivan bought a green car.’ (Wilder and Čavar, 1994)

In the base structure in (15), *zeleni auto* is one syntactic constituent.

- (16) *Zeleni* je Ivan kupio *auto*.
 green AUX-3rd-SG Ivan buy-PTC car
 ‘Ivan bought a green car.’

In (16), the adjective is fronted, and everything else in the sentence breaks up the DP.⁴

The proponents of syntactic accounts claim that the adjective extraction demonstrates that constituents can be extracted from a DP. Yet, no presentation of this argument provides a tree for either the form in (2) or the adjective extraction example in (16). But, the proponents of syntactic accounts assert that adjective extraction is analogous to the clitic intervening in a syntactic constituent. This is because in (16) non-clitic material can intervene in a DP, so, they argue, it is not the prosodic requirements of the clitic motivating the constituent splitting in forms such as (2), but some other process. However, the Serbo-Croatian speakers I have consulted consider the adjective extraction example in (16) to be completely ungrammatical, while they readily accept the forms where the clitic intervenes in the DP, as in (2).

Even if the adjective-extracted sentences are grammatical to speakers of other dialects, this difference in acceptability indicates that these sentences are not analogous. Without a successful analogy to forms where non-clitic material can split a DP, and in the absence of any derivation, these syntactic approaches provide no real account of the prosodic alternant.

5.3 Halpern fails to produce the syntactic definition of second position

Halpern (1992, 1995) proposes that clitics move into the different definitions of second position for different reasons. While he generates the prosodic definition of second position with *prosodic inversion*, he claims that syntactic definition of clitic position is derived entirely in through syntactic processes. He claims that the clitic moves after multiple prosodic words to follow the first syntactic constituent.

Halpern generates the forms with the syntactic definition of second position, asserting that clitics are in sentence-initial position at one point in the syntactic derivation. This is same position they are in at the output of syntax for the derivation of the prosodic definition of second position, before *prosodic*

⁴ Bošković (p.c. 2006) argues that this example of constituent-spitting becomes acceptable if *auto* precedes the verb *kupio*, resulting in *Zeleni je Ivan kupio auto*; however, other Serbo-Croatian speakers I have consulted still reject this form. Were this statement grammatical, it would support his point that it is not the prosodic requirements of the clitic that drive constituent splitting, but some other syntactic process.

inversion has applied. A syntactic constituent fronts before the clitic auxiliary to gain emphasis, as shown in (17).

(17) [Taj čovjek]_{NP} je taj čovjek voleo Mariju



Here, the DP *taj čovjek* fronts before the clitic *je* in the syntax; however, these forms do not actually have the special emphasis that this account predicts. Serbo-Croatian consultants report that the syntactic and prosodic definitions of clitic position do not differ in emphasis despite the supposed DP-fronting in the syntactic definition. Schütze (1994), generally a proponent of Halpern's approach, also recognizes that speakers do not perceive special emphasis in these forms. The matter of emphasis might seem trivial, but it is the only motivation for DP-fronting, and, as such, is necessary for the success of this account.

5.4 Summary of clitic placement in DP-initial sentences

No single-grammar approach can account for the two alternants. The syntactic approaches cannot explain how the clitic interrupts the DP as it does in the prosodic definition of second position. Anderson's OT approach and Radanović-Kocić's phonological approach provide only a description but no explanation for the alternation between the definitions of clitic position. Halpern's generation of the syntactic definition incorrectly predicts emphasis on the first syntactic constituent. Perhaps the correct single-grammar approach has yet to be found, but this problem resolves easily under a two-grammar account.

6. Conclusion

Clitic placement in Serbo-Croatian can be accounted for using two co-existing grammars, as is predicted for a language in transition. No single grammar approach can account for clitic placement in Serbo-Croatian. Because this shift from the prosodic to the syntactic has occurred elsewhere, this change may indeed be directional; thus, the current state of Serbo-Croatian offers a unique window onto a reoccurring pattern of language change.

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