RESEARCH

Getting in the first word: Prosody and predicate initial sentences in Serbian

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Second position clitics in Serbian are informally characterized in terms of their hosts which correspond to either the first word or the first phrase within some clitic positioning domain. Serbian is a free constituent order language, with a default SVO order, but with predicate initial orders in the presence of *pro*-drop or postposed subjects. Earlier proposals range from those in which first phrase positioning is taken to be syntactic and first word to be prosodic, with the initial prosodic word hosting the clitics (Zec and Inkelas 1990; Halpern 1995), to those which analyze both FirstPhrase and FirstWord as a unified syntactic phenomenon (Franks and Progovac 1994; Bošković 2001). While we argue for the relevance of prosody in first word placement, we shed new light on the scope of its role.

1 Background

Second position clitics have long attracted attention as a window onto the interfaces between prosody and syntax. In this paper, we take as our empirical base second position clitics in Serbian. In Serbian, clitics are informally characterized in terms of their hosts, which correspond to either the first word or the first phrase (within some clitic positioning domain; Klavans 1982; Anderson 2005; among others). Serbian is a free constituent order language with a default SVO order, but with *predicate initial orders* in the presence of *pro*-drop or postposed subjects (Predolac 2011 gives a more detailed account of the principles underlying the word order possibilities).

We will be focusing on three major issues. The first of these is the choice of clitic host – what determines FirstWord vs. FirstPhrase clitic placement? The second question is that of the impact of the initial constituent – predicate vs. argument – on clitic placement in general, and the choice of FirstWord vs. FirstPhrase in particular. Finally, what is the role of prosody in clitic placement? In considering the actual placement possibilities (or cases) it is important to distinguish between simply focusing on the clitic host (as in (1a) below), and taking into account the initial constituent (as in (1b)).

(1)   a.   Word/phrase placement
            FirstWord   FirstPhrase

        b.   Context-rooted word/phrase placement
            Pred FirstWord   Pred FirstPhrase
            Arg FirstWord   Arg FirstPhrase

In other words, we claim that the more fine-grained classification in (1b) is essential, and that the standard two-way split in (1a) is inadequate to capture the data. The four cases are illustrated in (2) and (3):

(2)   *Argument initial*

    a.   Taj   **je**   zadatak   veoma   važan.   FirstWord
        this   is-CL task   very   important

    b.   Taj   zadatak   **je**   veoma   važan.   FirstPhrase
        this   task   is-CL very   important
        'This task is very important.'

(3)   *Predicate initial*

    a.   Veoma   **je**   važan   taj   zadatak.   FirstWord
        very   is-CL important this   task

    b.   Veoma   važan   **je**   taj   zadatak.   FirstPhrase
        very   important is-CL this   task
        'This task is very important.'

In the remainder of this paper, we turn our attention to the question of the role of prosody in clitic placement. In section 2 we present evidence for the relevance of FirstWord clitic hosts, arguing against proposals which question the relevance of this host type. In section 3, which focuses on the role of prosody in FirstWord clitic placement, we show an asymmetry in this respect between argument and predicate initial sentences. In section 4 we examine topicalized PPs, with a particular emphasis on those headed by prepositions which have dual status – functioning either as clitics (as is usual for prepositions) or as prosodic words, showing that the asymmetry established in section 3 extends to this case as well. In section 5 we present our analysis of clitic placement in Serbian, and in section 6 we close with concluding remarks.

2 The status of FirstWord clitic hosts

In this section we present empirical evidence for the existence of FirstWord hosts which, as we argue, present a robust category. This perspective is based on the Diesing, Filipović-Đurđević and Zec study (2009; henceforth DFZ) which provides corpus and experimental evidence for the four-way division in (1b). In the corpus study, the proportions of the four cases were assessed in two corpora, a corpus of the daily press, and a corpus of literary prose.[1] Similar studies were conducted by Pereltsvaig (2008) for Russian, and Pancheva (2005) for Old Bulgarian. The DFZ corpus study demonstrated that FirstWord placement is far more common when the initial constituent is a predicative phrase. When the initial constituent is an argument, FirstPhrase placement is more common. The corpus study thus showed essential asymmetries among the four factors: the two initial constituent types, and the two placement options.

   The experimental part of the DFZ study included production and acceptability judgment tasks, with both experiments using the same sets of stimuli. As shown in Table 1, these consisted of 120 sentences with equal numbers of the argument and predicate cases. Within the argument initial case, there were the NP (subject and object) and PP categorial possibilities, with a further division between those with a demonstrative or possessive determiner, or with an adjectival modifier. For the predicate initial case, three options

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[1] The corpus of the daily press we used is Ebart Media Documentation, www.arhiv.rs, and the corpus of literary prose is Corpus of Serbian Language.

A. Argument		60	B. Predicate	60
	Determiner	Adjective		
Subject	10	10	AP	20
Object	10	10	NP	20
Prep phrase	10	10	VP	20

Table 1: Types of sentences used in the psycholinguistic experiments.

were presented: VP, NP, and AP. These also had various branching possibilities, with AP branching into specifier + A, NP branching into adjective + N, and VP branching either into V + object or adverb + V.

In the production experiment, which utilized a paper and pencil questionnaire, 38 participants were asked to choose between FirstWord and FirstPhrase clitic hosts. In each sentence presented to the participants the critical clitic was omitted, and the two positions of clitics (after the first word and after the first phrase) were replaced with a line, i.e. a blank to be filled in, as shown in (4):

(4)   a.   Argument sentence
            Taj   __ zadatak __ veoma   važan.
            /that __ task   __ very   important/

        b.   Predicate sentence
            Veoma __ važan   __ taj   zadatak.
            /very   __ important __ that task/
            'That task is very important.'

As can be seen in the chart in Figure 1, the results revealed that 97.59% of participants chose FirstWord placement in predicate initial sentences and only 7.02% chose FirstWord placement in argument initial sentences. Logistic regression performed on participants' responses, with the dependent variable being the placement of a clitic in one of the two possible positions for each of the two sentence categories, revealed that the observed difference was significant: $\chi^2(1) = 1557.16$, $p < 0.0001$.

In a second experiment focusing on acceptance rates, the stimuli were presented on a computer display, and the participants (48 in this case) were instructed to judge, in a binary fashion, whether or not the sentence appearing on the screen was acceptable in their language. Here too an asymmetry was revealed. The acceptance of argument initial sentences was 97% in the FirstPhrase position, 92% for FirstWord. For predicate initial sentences acceptance of the FirstPhrase position was 72% and 97% in FirstWord. This can be seen in Figure 2.

While both placement options were judged acceptable for both the argument and predicate sentence types, in each case there is a clear, distinct, and statistically significant preference for one of the clitic placements for each sentence type. Logistic regression of yes/no answers in the sentence acceptability task revealed a significant main effect of sentence type: $\chi^2(2) = 232.65$, $p < 0.0001$, a significant main effect of clitic position: $\chi^2(2) = 228.12$, $p < 0.0001$, and a significant interaction between the two: $\chi^2(1) = 181.24$, $p < 0.0001$. Reaction times taken in the acceptability task conformed to this pattern, with FirstPhrase placement in argument initial sentences being processed faster than FirstWord placement, and FirstWord placement being processed faster than FirstPhrase placement in predicate initial sentences (as reported in the DFZ study).

It should be noted that, in predicate initial sentences, somewhat degraded results in both the production and acceptability judgment tasks are due to relatively low scores in the VP
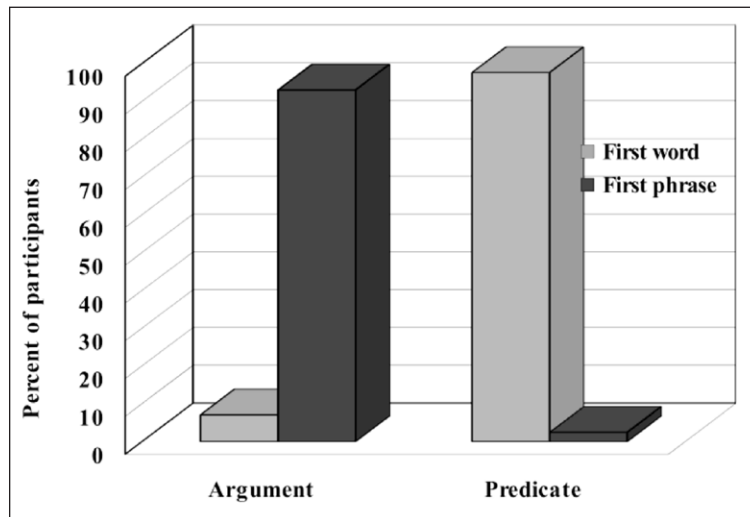
Figure 1: Production results: percent of participants placing a clitic after the first word (light gray), and after the first phrase (dark gray) when completing argument (left), and predicate sentences (right).
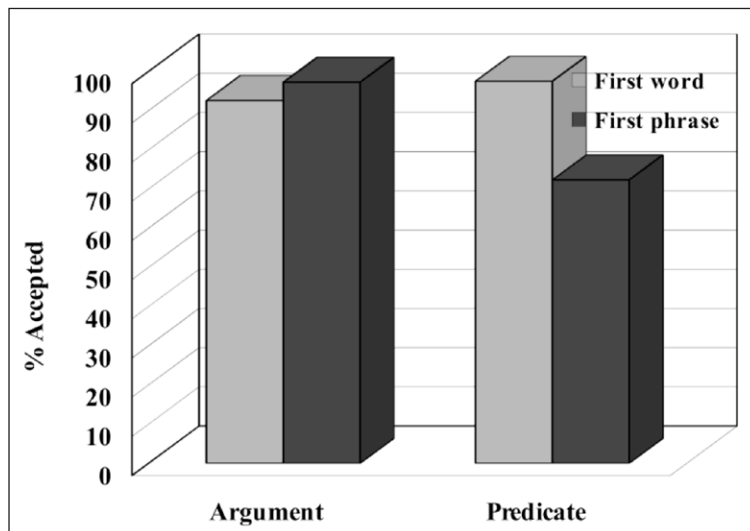
Figure 2: Acceptance rates: mean acceptance rates for the argument (left), and predicate sentences (right) with a clitic positioned after the first word (light gray), and after the first phrase (dark gray).

case, when compared with the AP and NP cases. (This result of the DFZ experiment was not reported in the 2009 paper.) In the production task, FirstPhrase was selected in 6.31% for NPs, 0.92% for APs, and only 0.13% for VPs. Acceptance rates for the FirstPhrase option were 89.04% for NPs, 80.23% for APs, and 47.61% for VPs. Thus VPs score fairly low in both production and acceptability judgments, which strongly suggests that they are highly disfavored as FirstPhrase hosts.

The DFZ study not only provides evidence for the classification in four-way (1b), but also establishes a pattern of preferences within that classification. This is summarized in the table below.

We attribute this pattern of preferences to the information structure associated with each of the four clitic placements. The two preferred types of clitic hosts are consistent with discourse neutral interpretations. However, FirstWord hosts in argument initial sentences and FirstPhrase hosts in predicate initial sentences call for special discourse conditions that we associate with a [+ contrast] feature specification. In particular, sentences with

these less preferred clitic placements are fully acceptable if interpreted as a contrastive topic or a contrastive focus (Diesing 2010; Diesing & Zec 2011).[2] Overall lower preference for these clitic hosts may well reflect the intricacy of accommodating for a [+contrast] interpretation in the absence of any context.

We close this discussion with further examples of the four types of cases that the DFZ study has established as essential for any approach to the second position clitics in Serbian; all are taken from the DFZ set of stimuli. Argument initial sentences are exemplified in (5)–(7), and predicate initial sentences in (8)–(11). Only cases with adjectives as specifiers are exemplified in argument initial sentences. In predicate initial sentences, both types of VP cases are presented, with the indication that (10b) and (11b) are considerably degraded.

(5)   Argument, subject
  a. Niske **će** zgrade pre odoleti jakim zemljotresima.   FirstWord
      low will-CL buildings more resist strong earthquakes
      'Low buildings are more likely to resist strong earthquakes.'

  b. Niske zgrade **će** pre odoleti jakim zemljotresima.   FirstPhrase
      low buildings will-CL more resist strong earthquakes
      'Low buildings are more likely to resist strong earthquakes.'

(6)   Argument, object
  a. Loše **ćemo** igrače izbaciti iz prve ekipe.   FirstWord
      bad will-CL players kick out from first team
      'We will kick out bad players from the first team.'

  b. Loše igrače **ćemo** izbaciti iz prve ekipe.   FirstPhrase
      bad players will-CL kick out from first team
      'We will kick out bad players from the first team.'

(7)   Argument, PP
  a. Na crnim **se** kolima vidi svaka trun prašine.   FirstWord
      on black REFL-CL cars see every bit dust
      'Every bit of dust is seen on black cars.'

  b. Na crnim kolima **se** vidi svaka trun prašine.   FirstPhrase
      on black cars REFL-CL see every bit dust
      'Every bit of dust is seen on black cars.'

(8)   Predicate, AP
  a. Užasno **su** prodorni svi njeni studenti.   FirstWord
      exceptionally are-CL self-asserting all her students.
      'All her students are exceptionally self-assertive.'

  b. Užasno prodorni **su** svi njeni studenti.   FirstPhrase
      exceptionally self-asserting are-CL all her students
      'All her students are exceptionally self-assertive.'

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[2] Suggestive in this respect is the DFZ finding that, in the argument case, FirstWord hosts with demonstratives as specifiers were preferred over those with specifiers corresponding to adjectives; demonstratives are more easily interpreted contrastively than adjectives. This was found both in production and acceptance rates. In production, determiners were selected as FirstWord hosts in 10.09%, and adjectives in 3.95% (this difference being statistically significant, $\chi^2(1) = 30.81$, $p < 0.0001$). In acceptability judgments, significance was reached only in sentences with initial object arguments, which were accepted 98.57% with demonstratives as FirstWord hosts, and 93.81% with adjectives in this role (the difference being statistically significant: $\chi^2(1) = 5.47$, $p < 0.05$).

(9)　　Predicate, NP

    a.　Loš **je** advokat a uvek ima klijente.　　FirstWord
      poor is-CL lawyer but always has clients
      'He is a poor lawyer but always has clients.'

    b.　Loš advokat **je** a uvek ima klijente.　　FirstPhrase
      poor lawyer is-CL but always has clients
      'He is a poor lawyer but always has clients.'

(10)　　Predicate, VP

    a.　Pročitao **je** roman za nekoliko sati.　　FirstWord
      read AUX-CL novel in a few hours.
      'He read the novel in a few hours.'

    b.　*Pročitao roman **je** za nekoliko sati.　　FirstPhrase
      read novel AUX-CL in a few hours

(11)　　Predicate, VP

    a.　Tačno **su** odgovorili na sva pitanja iz fizike.　FirstWord
      correctly AUX-CL answered to all questions in physics
      'They answered correctly to all physics questions.'

    b.　*Tačno odgovorili **su** na sva pitanja iz fizike.　FirstPhrase
      correctly answered AUX-CL to all questions in physics

In the remainder of this paper, we turn our attention to the question of the role of prosody in clitic placement.

3 Prosody in FirstWord clitic placement: The argument/predicate asymmetry

As follows from the discussion above, we will be focusing primarily on FirstWord placement. But before discussing our perspective in more detail, we place it in the context of earlier work. While the DFZ study provides strong support for differentiating the FirstWord and FirstPhrase clitic placements, the status of this distinction in previous accounts of second position clitics in Serbian is less clear. It is important to note that earlier proposals focus primarily on argument initial cases, such as those in (5)–(7), essentially ignoring the predicate initial cases in (8)–(11). The detailed description of the facts in Browne (1975) is a notable exception.

  Working with this fairly restricted set of data, the previous analyses differ from each other largely in whether the placement of clitics is syntactic (Franks & Progovac 1994; Bošković 2001), prosodic (Radanović-Kocić 1996), or accomplished by some combination of means (Halpern 1995; Zec & Inkelas 1990). Within a purely syntactic approach to clitic placement, the distinction between FirstWord and FirstPhrase placement falls away – both are cases of clitics attached to phrases, in parallel to analyses of left branch movement; there is no formal distinction between the two types. Clitic placement in Serbian is thus represented as a unified phenomenon. Proponents of the purely syntactic approach reserve all reordering operations to the domain of syntax, with no PF adjustments being allowed (Bošković 2000). Various alternative approaches (e.g. Zec & Inkelas 1990; Halpern 1995) permit a mixed view, in which the FirstWord/FirstPhrase distinction is manifest theoretically – FirstWord placement is prosodic, and FirstPhrase placement is syntactic. The key assumption underlying this bifurcation is that FirstWord clitic hosts are prosodic words (Zec & Inkelas 1990; Zec 2005), an assumption that presents a challenge to the exclusively syntactic accounts. But, as already noted, all previous accounts rely on a limited database, primarily the argument initial sentences, and it is in these cases that the DFZ study finds that FirstWord placement is the less preferred option.

With this background, we now turn to exploring the role of prosody in clitic placement. In particular, we will argue for the importance of prosody in FirstWord placement both in predicate initial and argument initial sentences. Though some earlier proposals have claimed a role for prosody in clitic placement, we substantially expand the scope of that role. In particular, we have considerably expanded the database by introducing predicate initial FirstWord cases along with the argument initial cases already well known in the literature. We further claim that the placement of second position clitics is not uniform, and that factors other than prosody, such as syntax and information structure, play a significant role. These further factors shed light both on the bifurcation into FirstWord and FirstPhrase clitic hosts, and on the pattern of preferences shown in Table 2. We thus claim that the expanded set of data established by the DFZ study cannot be accommodated in a uniform fashion, either syntactic or prosodic, and crucially calls for an interface approach.

We begin with the proposal that second position clitics prosodically subcategorize for prosodic words, which in the case of FirstWord placement also serve as their sole hosts (following Zec & Inkelas 1990; as well as Zec 2005 and the references therein). Any lexical element, as well as a small set of designated functional elements, maps into a prosodic word, which is prosodically independent as a bearer of stress and pitch. This is illustrated in (12a), where the FirstWord host corresponds to an adjective in the specifier position that maps into a prosodic word, with the clitic attaching to it recursively and forming another prosodic word layer.

(12)   Argument, subject
    a.   [[Niske]$_{PrWd}$ **će**]$_{PrWd}$ zgrade   pre   odoleti jakim zemljotresima. FirstWord
          low   will-CL buildings more resist   strong earthquakes.
          'Low buildings are more likely to resist strong earthquakes.'
    b.   **će**   [[   ]$_{PrWd}$ **će**]$_{PrWd}$

The formal mechanism for this attachment is the clitic's lexically encoded subcategorization frame, which insures that a clitic both attaches to a prosodic word host, and forms with its host a new prosodic word (following Inkelas 1990; Zec & Inkelas 1990; Chung 2003; among others). The subcategorization frame in (12b) encodes both the type of prosodic host, and the directionality of attachment (for arguments, see Zec 2005; Zec & Filipović-Đurđević 2016). In this case, it mandates that, in the prosodic component, the clitic should be immediately preceded by a prosodic word host.

An important question to ask is whether prosody alone is responsible for FirstWord clitic placement in both the argument and predicate cases, under the broadly held view that syntactic information is not readily available in the prosodic component (Selkirk 1980; 1986; Nespor & Vogel 1986; Truckenbrodt 1995; Chung 2003; among others). That is, can any sentence initial prosodic word serve as a FirstWord clitic host, regardless of the role it plays in the syntax, and regardless of its larger syntactic context? This question was addressed in an experimental study by Zec and Filipović-Đurđević (2016), which follows the DFZ design. Expanding on the range of data used in the DFZ study, they presented a variety of initial constituents in order to vary the configurations of the FirstWord

	FirstPhrase	FirstWord
Argument	Preferred	
Predicate		Preferred

Table 2: Clitic placement preferences.

elements. The types of stimuli are presented in (13). Only the cases in (13a), those with an element preceding the head, were covered in DFZ. Head initial phrases, as in (13b) and (13c), are a new type of case introduced in this study.[3]

(13)   Types of stimuli
        a. Pre-head   Spec + Hd   [Spec]$_{PrWd}$ + Hd
        b. Post-head   Hd   + NP/PP   [Hd]$_{PrWd}$ + NP/PP
        c. Double-head   Hd   + Hd   [Hd]$_{PrWd}$ + Hd

Details of the experimental design are given in Table 3. The Spec position below admits adjectives as well as possessive and demonstrative determiners which we assume, following Despić (2013), to be adjoined to NP. Examples for all cases in Table 3 are given in (18)–(21), annotated with the acceptability values that emerged from the experiment.

The Zec and Filipović-Đurđević results reveal a pronounced asymmetry between argument initial and predicate initial sentences. In the predicate initial context, any initial prosodic word can serve as a FirstWord clitic host, while in the argument initial context only initial prosodic words that do not correspond to syntactic heads can readily assume this role. These results hold for both production and acceptance tasks.

The production task consisted of a completion task using a pencil and paper questionnaire. The participants were asked to complete sentences in which the clitic had been omitted. The chart in Figure 3 summarizes the results for all sentence types.

While in predicate initial sentences participants overwhelmingly placed clitics after the FirstWord hosts, in argument initial sentences FirstWord placement was much less frequent, and reached relatively significant numbers only in the pre-head case.

This asymmetric pattern was also borne out in the acceptance task. In predicate initial sentences FirstWord hosts were highly acceptable for all three head types, as shown in the chart in Figure 4.

Argument	**pre-head**		**post-head**		**double-head**	
Subject	Det+N	6	N+NP	6	N+N	12
	Adj+N	6	N+PP	6		
Object	Det+N	6	N+NP	6	N+N	12
	Adj+N	6	N+PP	6		
total: 72		24		24		24

Predicate	**pre-head**		**post-head**		**double-head**	
AP	Spec+A	12	A+NP	6	A+A	12
			A+PP	6		
NP	Spec+N	12	N+NP	6	N+N	12
			N+PP	6		
total : 72		24		24		24

Table 3: Structure of stimuli.

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[3] The set of stimuli did not include VP initial sentences, because the DFZ study covered all the essentials of this case.
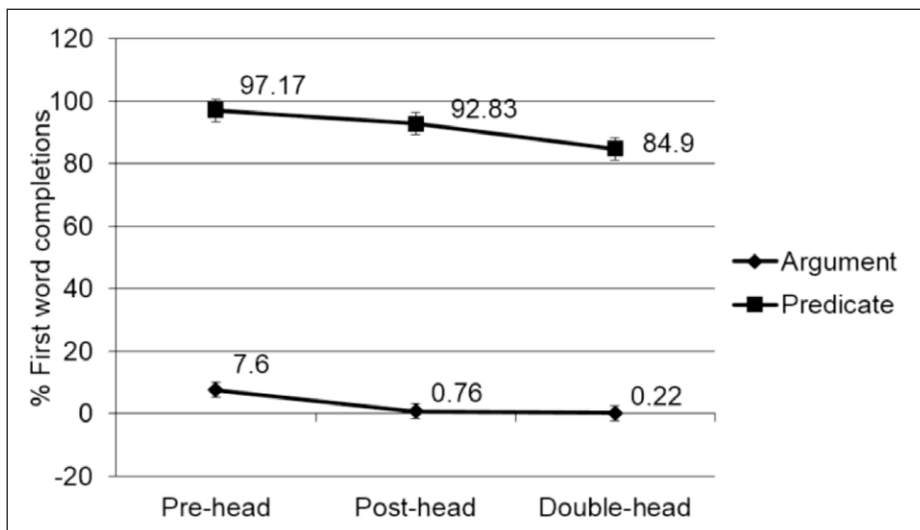
Figure 3: Production results: percent of sentences completed with clitic placed after the first word.
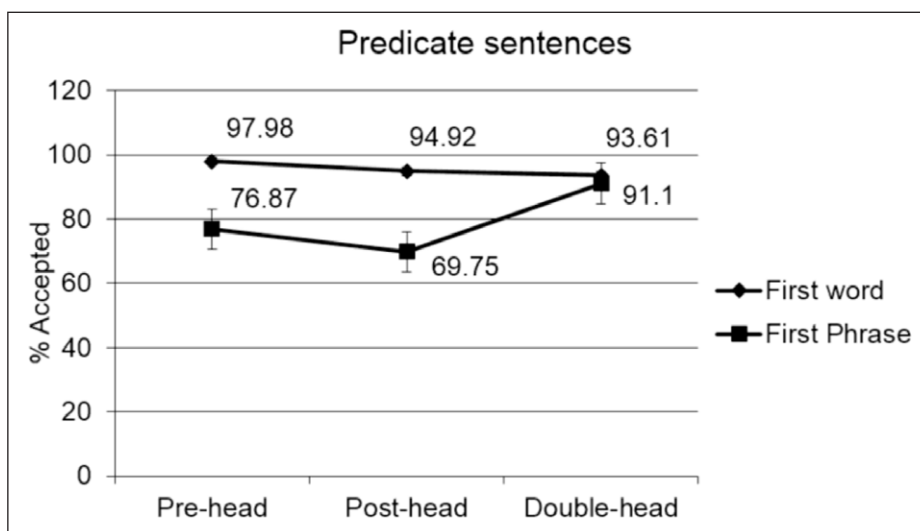

Figure 4: Acceptance rates for predicate initial sentences.

But in argument initial sentences, acceptance rates are high for FirstWord hosts of the pre-head type, but are considerably degraded for the two head initial types, as shown below in Figure 5.

Taking into account both production and acceptability results, we note a prominent presence of FirstWord hosts only in the predicate case, but not in the argument case. The experimental results strongly suggest that in the predicate case, all three types of FirstWord hosts figure robustly in the participants' performance. In the argument case, however, only FirstWord hosts of the pre-head type show a significant presence, while FirstWord hosts of the post-head and double head types are practically absent from production and are accepted at considerably degraded rates. This leads to the conclusion that all types of FirstWord hosts are available in predicate initial sentences, while only FirstWord hosts of the pre-head type robustly figure in argument initial sentences (for detailed discussion, see Zec & Filipović-Đurđević 2016). This asymmetry in the availability of FirstWord hosts is presented in Table 4:
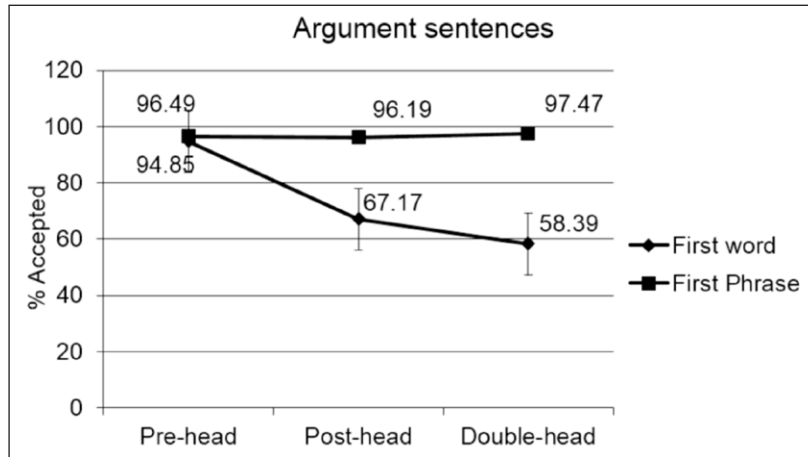
Figure 5: Acceptance rates for argument initial sentences.

FirstWord	pre-head	post-head	double-head
Argument	✓	*	*
Predicate	✓	✓	✓

Table 4: Availability of FirstWord clitic placement.

Next, we present cases of each FirstWord head type in both structural positions. The examples are all taken from the stimuli of the experiment whose results we just reported (Zec & Filipović-Đurđević 2016). All acceptability patterns are those established by the reported experiments.

3.1 Predicate initial

In predicate initial sentences, the clitic can occur after a FirstWord host which is in a specifier, head, or following the first of two conjoined heads. Thus, as shown in (14) and (15), all head types are available in predicate initial sentences, both with initial APs and NPs. Moreover, in situations where the clitic follows the head, the type of constituent following the clitic is of no consequence, as can be seen in (14b, c) and (15b, c).

(14)   Initial AP
  a.   Neobično **su**   darežljivi prema   amaterskim pozorištima. Pre-head
       unusually are-CL generous   towards amateur   theaters
       'They are unusually generous towards amateur theaters.'

  b.   Željni   **su**   slobode, a   roditelji to   ne
       desiring   are-CL of freedom, but parents   that not
       razumeju.   Post-head (NP, GEN)
       understand
       'They crave for freedom, but their parents do not understand that.'

  c.   Osetljiv **je**   na prigovore, i   zato   treba da ćutimo. Post-head
       sensitive is-CL to criticism   and therefore (we) should be silent
       'He is sensitive to criticism and we should therefore keep silent.'

  d.   Srećna **je**   i   uzbuđena što   ide   na   takmičenje. Double-head
       happy is-CL and excited   because (she) goes to competition
       'She is happy and excited because she will be participating in the competition.'

(15)　　Initial NP

    a.　Dobar **je** imitator kad nema tremu.　　　　　Pre-head
       good　　is-CL imitator when not　　nervous.
       'He is a good imitator when he is not nervous.'

    b.　Članovi **su** kluba a neće da se takmiče.　　Post-head (NP, GEN)
       members are-CL of-club but will not　　compete
       'They are members of the club, but refuse to compete.'

    c.　Sudija **je** od integriteta i zaslužuje poverenje.　Post-head (PP)
       judge is-CL of integrity　and deserving of trust
       'He is a judge of integrity and deserves our trust.'

    d.　Lopovi **su** i varalice otkako ih znam.　　Double-head
       thieves are-CL and crooks　since (I) them know
       'They have been thieves and crooks since I got to know them.'

3.2 Argument initial

In argument initial sentences, however, only pre-head FirstWord hosts are available both with initial subject and with initial object NPs, as shown in (16) and (17) below. Clitics can readily be placed following a FirstWord host that corresponds to a specifier or other left branch element, as in (16a) and (17a). Clitic placement following any FirstWord host corresponding to a syntactic head is practically unavailable. The sentences in (16c, d, e) and (17b, c, d) become felicitous if the clitic is placed after the FirstPhrase, the standard clitic placement in the argument case. As already noted, FirstWord hosts in the argument case bear the feature [+contrast], indicating that the referent of the initial constituent is contrasted with alternatives in a set (usually that denoted by the head noun).

(16)　　Initial Subject NP

    a.　Ta **se** pesma dopala i publici i žiriju. Pre-head
       that REFL-CL song　pleased both (the) audience and (the) jury
       'That song was favored by both the audience and the jury.'

    b.　Loše **ćemo** igrače izbaciti iz prve ekipe.
       bad　will-CL players kick out from first team
       'We will kick out bad players from the first team.'

    c.　*Članovi **su** kluba dobili nove knjižice.　　Post-head (NP, Gen)
       members are-CL of-club received new　membership cards
       intended 'Members of the club received new membership cards.'

    d.　*Tim **se** iz Kraljeva nada pobedi.　Post-head (PP)
       team REFL-CL from Kraljevo hopes to　win
       intended 'The team from Kraljevo is expecting to win.'

    e.　*Lopovi **se** i varalice uvek nekako snađu.　　Double-head
       thieves REFL-CL and crooks　always somehow manage
       intended 'Thieves and crooks always somehow manage.'

(17)　　Initial Object NP

    a.　Ovu **su** odluku nerado prihvatili.　　　　　Pre-head
       this are-CL decision reluctantly accepted
       'They reluctantly accepted this decision.'

      *Ministra **su** prosvete zasuli brojnim
      minister are-CL of-education flooded with numerous
      pitanjima.　　　　　　　　　　　Post-head (NP, Gen)
      questions
      intended 'They flooded the minister of education with numerous questions.'

b. *Studente **su** iz Beograda nagradili prošle godine. Post-head (PP)
students are-CL from Belgrade (they) awarded last year
intended 'They gave an award to the students from Belgrade last year.'

c. *Vile **su** i veštice izbacili iz savremenih
fairies are-CL and witches (they) expelled from modern
dečjih priča. Double-head
children's stories
intended 'Fairies and witches have been expelled from modern children's stories.'

3.3 Minimal distinctions

The asymmetry between the predicate and argument cases is brought into relief with examples of minimal distinctions in the availability of FirstWord hosts. Thus, the First-Word host of the post-head type is available in (18a), a predicate initial sentence, but not in the argument initial sentence in (18b).

(18)　　Initial NP of the post-head structure:
a. Članovi **su** kluba a neće da se takmiče. Post-head
members are-CL of-club but will not compete
'They are members of the club, but refuse to compete.'

b. *Članovi **su** kluba dobili nove knjižice.
members are-CL of-club received new membership cards
intended 'Members of the club received new membership cards.'

Likewise, a FirstWord host of the double head type is available with an initial predicate, as in (19a), but not with an initial argument, as in (19b).

(19)　　Initial NP of the double-head structure:
a. Lopovi **su** i varalice otkako ih znam. Double-head
thieves are-CL and crooks since (I) them know
'They have been thieves and crooks since I got to know them.'

b. *Lopovi **se** i varalice uvek nekako snađu.
thieves REFL-CL and crooks always somehow manage
intended 'Thieves and crooks always somehow manage.'

Note that all these sentences are perfectly acceptable with the clitic placed after the First-Phrase; it is only FirstWord placement that imposes this constraint.

　What are the implications of the pattern summarized in Table 4 for the prosodic status of FirstWord hosts? In the predicate case, any initial prosodic word can host clitics, regardless of its syntactic collocation. It is precisely such lack of sensitivity to syntactic configurations that is the hallmark of the prosodic scenario (e.g., Chung 2003). In the argument case, however, only initial prosodic words that correspond to a pre-head element can serve as FirstWord hosts, while those corresponding to a constituent head are less than felicitous in this role. Such sensitivity to syntactic configurations is inconsistent with a prosodic scenario. One possible interpretation is that FirstWord hosts are selected prosodically in the predicate initial case, and are characterized syntactically in the argument initial case. However, this move does not accommodate the prosodic word status of FirstWord hosts in both the predicate and argument cases, which is further accentuated with initial prepositional phrases (PPs), to be addressed in section 4.

　The hypothesis we will pursue here is that FirstWord hosts are selected in the prosodic component for both initial predicates and initial arguments. But in the latter case we

will have to allow for an interference coming from another component of the grammar. This, we argue, is the information structure. The feature [+ contrast], already posited for FirstWord hosts with initial arguments, is inconsistent with elements serving as syntactic heads. In sum, in the predicate case, prosody alone is responsible for the selection of FirstWord hosts, while in the argument case, prosody interfaces with syntax and the information structure in the selection of FirstWord hosts.

4 Topicalized PPs: argument/predicate asymmetry persists

The proposed asymmetry in the availability of FirstWord hosts in predicate initial and argument initial sentences has important implications for sentences introduced by prepositional phrases (PP). As function words, prepositions do not routinely map into prosodic words, and in the case of Serbian, predominantly assume the role of proclitics, that is, they prosodically attach to their host prosodic word at its left edge.

Of interest here is a subclass of prepositions that optionally map into prosodic words, and thus vary between clitic and prosodic word status. These prepositions with dual prosodic status will provide further evidence for the asymmetry between FirstWord hosts in argument initial and predicate initial sentences. The prediction is that PPs headed by prepositions with dual prosodic status should provide multiple options for FirstWord clitic hosts (note that dual prosodic status is also evidenced in some conjunctions and auxiliaries, as discussed in Zec 2005, but this is not relevant to our claims here). Crucial for us is the question whether this phenomenon exhibits the type of asymmetry we have already established for other types of FirstWord hosts. Stated more specifically, we predict that these prepositions, being syntactic heads, should occur freely as clitic hosts in contexts with PP predicate fronting. But where PP arguments are sentence-initial, the prepositions will be disallowed as clitic hosts.

In what follows, we present initial PPs in the predicate case in section 4.1, and in the argument case, in section 4.2. In both cases, we examine the behavior of both prosodically deficient prepositions as well as those with dual prosodic status. In section 4.3, we present yet another instance of the incompatibility of FirstWord hosts with constituent heads in argument initial sentences.

4.1 Initial PPs in the predicate context

In this section we present two cases of initial predicate PPs, varying in their prosodic status. The first case deals with those prepositions that have the prosodic status of clitics, and the second case with a set of prepositions that have dual status, functioning either as clitics or as prosodic words.

4.1.1 PPs headed by prepositions with the prosodic status of clitics

Focusing on the predicate initial case, we first present sentences with topicalized PPs headed by prepositions which function prosodically as clitics. As such, they are attached to a host prosodic word, recursively forming another prosodic word layer, as in (20).

(20)   [Prep [*HOST*] $_{PW}$] $_{PW}$

As already noted, the resulting prosodic word need not correspond to a syntactic constituent. This can be seen in the examples presented in (21)–(22): the preposition forms a prosodic word with the modifier, yielding *u dobroj* in (21) and *na lošem* in (22), each serving as a FirstWord clitic host.

(21)   U   dobroj   **smo**   fizičkoj   kondiciji.
        in   good   are-CL   physical   shape.
        'We are in a good physical shape.'

(22)   Na   lošem   **je**   glasu   zbog   čestih   ispada.
        on   bad   is-CL   reputation   because of frequent   misconduct
        'He has a bad reputation because of frequent misconduct.'

The initial prosodic word in (21) which serves as FirstWord host has the prosodic structure as in (23). As shown in (24), the preposition *u*, which being a clitic is prosodically deficient, cannot serve as a FirstWord host.

(23)   [u [dobroj] _PW_] _PW_

(24)   *U   **smo**   dobroj   fizičkoj   kondiciji.
        in   are-CL   good   physical   shape.
        'We are in a good physical shape.'

The ill-formed (24) clearly demonstrates the prosodic condition on the host of the clitic. Without attaching to a prosodic word host, the preposition, being prosodically deficient, cannot itself host a clitic. With this in mind, in the next section, we turn to the prepositions that have dual prosodic status.

4.1.2 PPs headed by prepositions with dual prosodic status

In addition to the prepositions that invariably have the status of clitics, attaching to the following prosodic word, as illustrated in (22), there is also a class of prepositions with dual prosodic status. Below we provide examples for three such prepositions: *protiv* 'against' in (25)–(26), *van* 'out of' in (27)–(28), and *ispred* 'in front of' in (29)–(30).

   The preposition *protiv* can either act as a proclitic, joining the following prosodic word and forming with it a FirstWord host *protiv svake*, as in (25), or it can form a prosodic word on its own which acts as a FirstWord host, as in (26). Note that, in (25), the first prosodic word *protiv svake* 'against every' is a non-constituent, and is part of the larger phrase *protiv svake ekonomske logike* 'against every economic logic'. In (26), but not in (25), the preposition exhibits standard properties of phonological words, bearing stress and pitch accent. (In these and following examples, context sentences are translated but not glossed.)

(25)   Context: 'Prices of raspberries are too low.'
        Protiv   svake   **su**   ekonomske   logike.
        against every   are-CL   economic   logic
        'They go against any economic logic.'

(26)   Context: 'They are so very radical.'
        Protiv   **su**   poreskog   sistema   u   zemlji, kao   takvog.
        against are-CL   tax   system   in (the) country as   such
        'They are against the system of taxation as such.'

Likewise, the preposition *van* can either form the FirstWord host jointly with the following prosodic word, as in *van životne* in (27a) and *van okvira* in (27b); or on its own, as in the two cases in (28).

(27)   a.   Context: 'According to the doctor on duty, the patient is recovered.'
             Van   životne   **je**   opasnosti.
             out   of life   is-CL   danger
             '(She) is out of mortal danger.'

b. Context: 'This question is very complicated,'
   I   van   okvira **je** ovog   članka.
   and   outside frame   is-CL this   article
   'and is outside the scope of this article.'

(28) a. Context: Legally invisible individuals are not recognized by law.
   Van   **su**   sistema   obrazovanja, zdravstva i   socijalne zaštite.
   outside are-CL system (of) education,   health   and social   care
   'They are outside the systems of education, health and social care.'

b. Context: 'He was operated on in the clinical center,'
   I   van   **je** životne   opasnosti.
   out of is-CL life   danger
   'and is out of mortal danger.'

Finally, the preposition *ispred* forms a FirstWord host either by virtue of combining with the following prosodic word, as in (29), or on its own, as in (30).

(29) Context: 'The boundary between stanzas is placed where the syntactic unit repeats.'
   Ispred   ove **je** jedinice govorni niz   obavezno   razlomljen na   stih.
   In front of that is-CL unit   spoken   string obligatorily broken   into verse
   'In front of that unit, the spoken string obligatorily breaks into verse lines.'

(30) Context: 'This is not related to the election campaign. We have advanced in this business.'
   Ispred   **smo**   drugih   gradova   u   Srbiji.
   in front of are-*Cl*   other   cities   in Serbia
   '(We) are ahead of other cities in Serbia.'

We account for this pattern by assuming that each of these prepositions is optionally a clitic, as presented in the following lexical entries by placing the clitic's prosodic subcategorization frame in parentheses:

(31)   Lexical entry of the preposition *protiv*
        protiv P   ([**protiv** [   ] PW] PW)

(32)   Lexical entry of the preposition *van*
        van   P   ([**van** [   ] PW] PW)

(33)   Lexical entry of the preposition *ispred*:
        ispred P   ([**ispred** [   ] PW] PW)

When the subcategorization frame is invoked, the preposition acts as a clitic, and when it is suppressed, the preposition maps into a prosodic word and is thus capable of serving as a FirstWord clitic host.

4.2 Initial PPs in the argument initial context

We now turn to the behavior of the two classes of prepositions in argument initial sentences. We first present argument initial PPs headed by prepositions with the prosodic status of clitics, and then we consider topicalized PPs headed by prepositions of dual status.

4.2.1 PPs headed by prepositions with the prosodic status of clitics

Topicalized PPs in the argument case are like those in the predicate case in at least one respect: in PPs headed by a preposition that invariably corresponds to a clitic, the First-Word clitic host includes the preposition prosodically attached to the following phonological word, just as in the predicate case. This is shown in (34): the string *na novim* constitutes an initial prosodic word that serves as a FirstWord clitic host, (34a), while the string *od moje* performs this role in (34b).

(34) a. Na   novim **se**   uredjajima primećuju mnogi   propusti.
          on   new   se-CL   equipment   noticed   many   omissions
          'On the new equipment one can notice many omissions.'

      b. Od   moje   **je**   odluke   zavisilo   dalje   poslovanje firme.
          of   my   is-CL   decision   depended   further activity (of) company
          'Future activity of the company depended on my decision.'

Again, as in the predicate case, the initial preposition, being itself a clitic, cannot host the second position clitic.

4.2.2 PPs headed by prepositions with dual prosodic status

Turning now to prepositions with dual prosodic status, we see that they behave differently in predicate initial and argument initial PPs. In the argument initial sentences these prepositions act only as clitics, as shown below in (35a) and (36a); they cannot form FirstWord hosts on their own, even though this option is available in predicate initial cases. Thus, in the argument initial case only one of the two options is realized, while in the predicate initial case both options are possible.

(35) Context: 'You heard of the organization that promotes young talents.'
      a. Protiv te   **se**   organizacije vodi   sudski   postupak.
          against that se-CL   organization file   law   suit
          'A law suit has been filed against that organization.'

      b. *Protiv **se**   te   organizacije   vodi   sudski postupak.
          against se-CL   that   organization   file   law   suit

(36) a. Ispred   **ove je**   zgrade   postavio   saobraćajni znak.
          in front of   this is-CL building placed   traffic   sign
          'In front of this bulding he placed a traffic sign.'

      b. *Ispred   **je**   ove zgrade   postavio saobraćajni znak.
          in front of   is-CL   this building placed   traffic   sign

As shown in section 3.2, only prosodic words sponsored by non-head syntactic elements can serve as FirstWord hosts in the argument case. Dual status prepositions, which serve as PP heads, follow this pattern. Although they can sponsor prosodic words, their head status prevents them from serving as FirstWord clitic hosts in the argument case. As syntactic heads, these prepositions are incompatible with the feature [+contrast], a required discourse attribute for FirstWord hosts with initial arguments.

   The examples in (35)–(36) show minimal pairs illustrating this asymmetry. In the first of each pair, the preposition functions as a clitic, and adjoins to a left branch element in the phrase. The result is a prosodic word which can function as a FirstWord clitic host. In the (b) examples, where the clitic functions as a prosodic word on its own, its syntactic head status is inconsistent with its FirstWord role in an argument initial sentence, as predicted.

4.3 Prepositions form a FirstWord host only with a non-head

The head/non-head asymmetry with initial arguments is manifested in yet another interesting way. Our finding that FirstWord placement in the argument initial case is only possible with non-head prosodic word sponsors extends to PP arguments, both those headed by prepositions that correspond to clitics and those with a dual status. Namely, while a preposition may prosodically attach to a prosodic word sponsored by any morphosyntactic element, this prosodic word is a possible FirstWord host only when its sponsor is a syntactic non-head. This is illustrated in (37)–(38). In (37a), the clitic preposition *o* 'about' attaches to a prosodic word sponsored by the possessor *Brankovoj* 'Branko's'. As the sponsor is a non-head, the resulting prosodic word *o Brankovoj* can act as a FirstWord host. In (46b), the prosodic word sponsor is the nominal head *poeziji* 'poetry' and, due to this, the resulting prosodic word *o poeziji* cannot serve as a FirstWord clitic host.

(37)   a.   O   Brankovoj **je**   poeziji govorio naš   ugledni   književni kritičar.
            about Branko's   is-CL poetry spoke   our   distinguished literary   critic
            'Our distingished literary critic spoke about Branko's poetry.'

       b.   *O   poeziji **je**   Branka Radičevića govorio naš ugledni   književni
            about poetry is-CL (of)Branko Radičević   spoke   our distinguished literary
            kritičar.
            critic

A similar contrast obtains in (38), where the PP is headed by a dual status preposition. In (38a) the preposition attaches to a prosodic word sponsored by a demonstrative (occupying a left branch of the NP; again see Despić 2013), which makes *ispred ove* an eligible FirstWord host. The example (38b) shows that if the preposition attaches to a prosodic word sponsored by the head noun, the resulting prosodic word *ispred zgrade* is not a licit FirstWord clitic host.

(38)   a.   Ispred   **ove** **je**   zgrade   postavio   saobraćajni znak.
            in front of   this   is-CL   building   placed   traffic   sign
            'In front of this bulding he placed a traffic sign.'

       b.   ***Ispred**   zgrade **je**   opštinskog suda postavio   saobraćajni znak.
            in front of   building is-CL (of) municipal court placed   traffic   sign

Note that this asymmetry does not extend to the predicate case. In (39), the prosodic word sponsor corresponds to a syntactic head. The preposition attaches to a prosodic word sponsored by the NP head, leaving out its complement, and yielding *na dnu* as the FirstWord host. In (40) (repeat of (27b)), the initial PP is headed by a dual status preposition which, in this case acts as a clitic, and attaches to the following prosodic word sponsored by the NP head, yielding *van okvira* as the FirstWord host. (Again, the preceding contexts are translated but not glossed.)

(39)   Context: 'How did they rank in the competition?'
       Na   dnu   **su**   lestvice.
       on   bottom   are-CL   scale
       'They are at the bottom of the list.'

(40)   Context: 'This question is very complicated,'
       I   van   okvira **je**   ovog   članka.
       and   outside   frame   is-CL this   article
       'and is outside the scope of this article.'

Thus unlike in the argument case, in the predicate case any initial prosodic word can act as a FirstWord host, regardless of whether its sponsor is a syntactic head or a syntactic non-head.

5 Serbian clitics in the grammar

Among earlier proposals, most influential were the accounts which assumed that clitic placement in Serbian is uniform, and that what descriptively appears to be a bifurcation into FirstPhrase and FirstWord clitic hosts can be reduced to a FirstPhrase case and addressed solely in the syntactic component. With only argument initial sentences taken into account, this assumption was reasonably tenable although not devoid of problems.

However, we have presented a broader set of data, which includes not only argument initial but also predicate initial cases, demonstrating the formal significance of FirstWord clitic hosts, which cannot be subsumed under the FirstPhrase case. We therefore pursue a non-uniform approach to clitic placement in Serbian, proposing a formal account which employs different mechanisms for the two cases. However, we propose here a revision to the account we presented in our earlier work (Diesing & Zec 2011). Our claim is that, in both argument initial and predicate initial sentences, FirstPhrase hosts are selected in the syntax while FirstWord hosts are selected in the prosodic component.

We further argue that both FirstWord and FirstPhrase clitic placement are non-uniform, but in distinct ways. In the case of FirstWord hosts, predicate initial sentences and argument initial sentences differ in that the latter clearly show the influence of discourse factors on clitic placement. For argument initial sentences, this type of clitic placement is sensitive to information structure: FirstWord hosts can only be elements that are marked [+contrast] (of the type proposed in Kiss 1998; Féry & Samek-Lodovici 2006). We relate to this our finding that FirstWord hosts are incompatible with the host being a syntactic head, and further assume that constituent heads repel the feature [+contrast]. In predicate initial sentences, FirstWord placement is uniformly prosodic and is insensitive to information structure. It is the preferred placement, and has an unmarked, presentational interpretation.
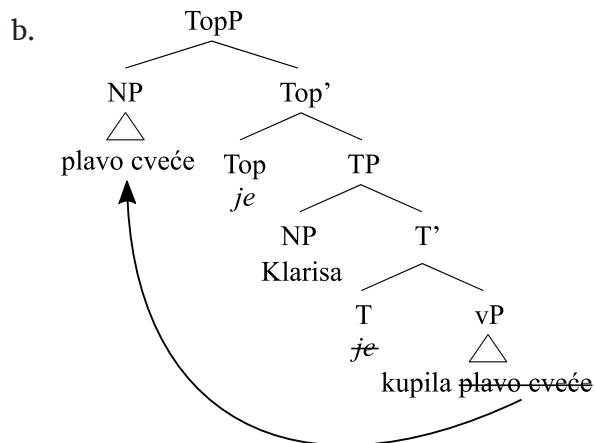
FirstPhrase hosts are selected in the syntactic component in both cases, but also differ in information structural import. For argument initial sentences, FirstPhrase placement is the preferred case, and this placement applies quite generally. FirstPhrase placement in predicate initial sentences is a contrastive option, and is only possible with non-verbal predicates – i.e. in copular sentences.

What all four cases have in common is that the clitics are associated with the highest functional head, as convincingly argued in Stjepanović (1998) (see also Bošković 2001; Progovac 2005). With this crucial assumption, we begin by considering the two preferred types of clitic hosts, argument initial FirstPhrase placement and predicate initial FirstWord placement. We propose that the first of these involves instances of topic or focus fronting (we assume some version of an expanded left periphery, as in Rizzi 1997; 2004; and others).

For illustration purposes we will consider the case of a clause-initial topic. A sentence-initial subject NP is a default topic. All other XPs may appear sentence-initially via scrambling, and are marked Top/Foc, depending on discourse structure. Clitics are in the highest functional head, namely the head of the functional projection hosting the topic XP. The clitics attach to XP (and prosodically, to the closest prosodic word on the left), and the

lower copies of the XP and clitic(s) are deleted (assuming a copy theory of movement). The example in (41) illustrates an object topic; we show only the relevant movement of the object NP.

(41) a.   Plavo   cveće   **je**   Klarisa   kupila   FirstPhrase, argument
            blue   flowers is-CL   Clarissa   bought
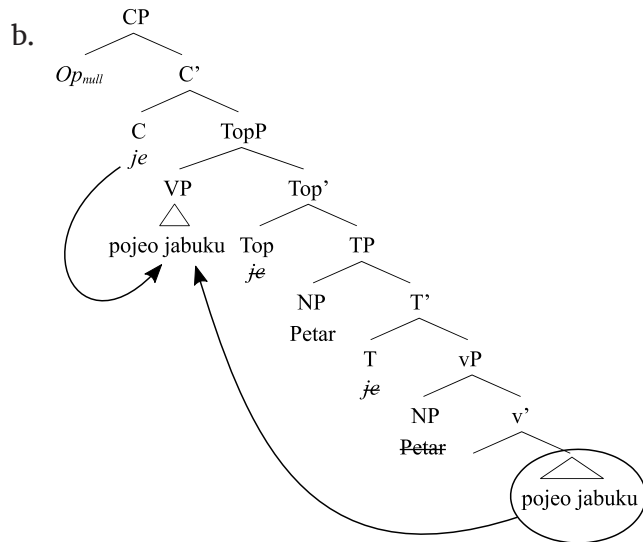   'Clarissa bought blue flowers.'

  b.

In the case of predicate initial sentences, the preferred FirstWord placement is prosodic, rather than syntactic. Recall that VP-initial orders arise particularly in the presence of pro-drop or postposed subjects.

   Furthermore, predicate fronting in Serbian is subject to certain discourse conditions comparable to those in English (Ward 1990; Landau 2006; 2007). In particular, a fronted predicate may invoke a meaning already in the discourse, providing some sort of affirmation (Ward 1990). They are thus anaphoric in a certain sense. (There is also the possibility of a contrastive meaning, we will address that option below in the discussion of the predicate initial sentences with first phrase placement.) This is particularly the case for the Serbian examples with postposed subjects, which we illustrate in (42). We propose to represent the anaphoric link with the preceding discourse required by the fronted predicate with an empty operator in Spec,CP. The clitic(s) occupy the head C, and the predicate (whether a verb phrase, or the predicate of a copular sentence) is in Spec,TopP.
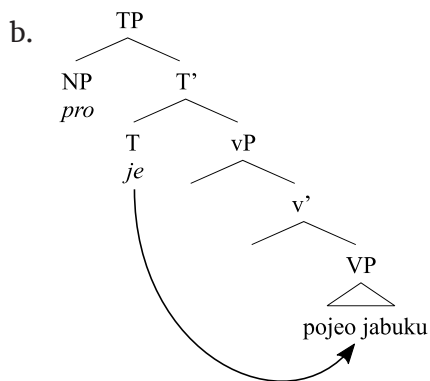
   Thus, the "initial" predicate actually follows a null operator in Spec,CP. Clitic(s) in C require a host (in particular, the clitic requires a host on its left, a subcategorization condition that cannot be met when it appears in initial position; see also Chung 2003 on Chamorro) and therefore lowers to the right of the first word by prosodic inversion (Halpern 1995; Condoravdi & Kiparsky 2001; see also Embick & Noyer 2001 for DM approaches).

(42) a.   Pojeo   **je**   jabuku   Petar.   FirstWord, predicate
            eat   CL   apple   Petar
            'Petar ate (the) apple.'

b.

```
                        CP
                   ┌─────┴──────┐
                Op_null        C'
                          ┌─────┴──────┐
                          C          TopP
                          je     ┌─────┴──────┐
                                VP          Top'
                                △      ┌──────┴──────┐
                          pojeo jabuku Top          TP
                                       je      ┌─────┴──────┐
                                              NP           T'
                                             Petar    ┌─────┴──────┐
                                                      T           vP
                                                      je    ┌──────┴──────┐
                                                           NP            v'
                                                          P̶e̶t̶a̶r̶    ┌──────┴──────┐
                                                                    ╱ pojeo jabuku ╲
```

Sentences with *pro*-drop differ from those with postposed subjects in that they do not require a discourse antecedent for the sentence-initial predicate. Indeed, it is not clear that in these cases any fronting has taken place at all. With the *pro* subject in Spec,TP, and the clitic in T, the clitic is here also in a position requiring a prosodically induced rightward adjustment to find a host, as shown in (43):
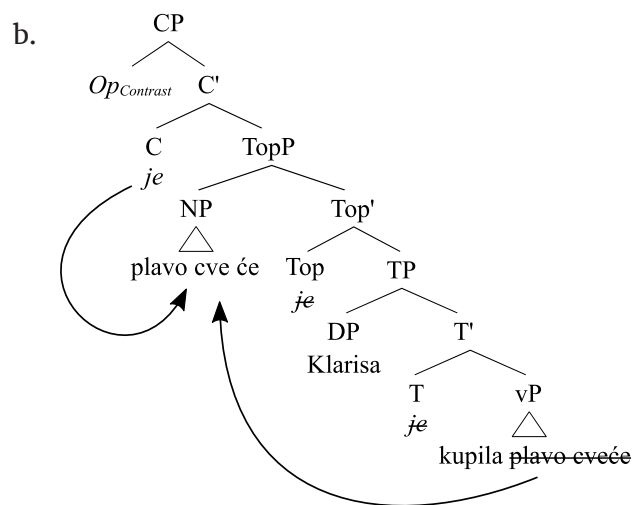
(43) a. Pojeo **je** jabuku.   FirstWord, predicate
          ate   CL   apple
          '*Pro* ate an apple.'

b.

```
              TP
         ┌─────┴──────┐
        NP           T'
        pro      ┌────┴──────┐
                 T           vP
                 je     ┌─────┴──────┐
                                    v'
                              ┌──────┴──────┐
                                            VP
                                            △
                                      pojeo jabuku
```

Thus, in the case of predicate initial sentences, the FirstWord placement is prosodic, rather than syntactic. In particular, the clitic requires a host on its left, a condition that cannot be met when it appears in initial position, calling for prosodic inversion.

  Turning now to the discourse marked cases, in argument initial sentences the left branch element of the XP is marked [+ contrast]. As with predicate initial FirstWord hosts, these sentences have an empty operator, but in this case the empty operator is a Contrast operator rather than semantically empty. There is an initial scrambling of the NP to TopP to check the Topic feature. If there is no further movement of the NP, the NP checks its Contrast feature via Agree. The clitic in C which, having no overt host to its left is stranded, must then undergo prosodic inversion. Example (44) shows a fronted object NP. (As in the earlier example, we show only the movement of the object NP in the tree below.)

(44)   a.   Plavo **je** cveće   Klarisa   kupila.   FirstWord, argument
             blue   CL flowers   Clarissa   bought
             'Clarissa bought BLUE flowers.'
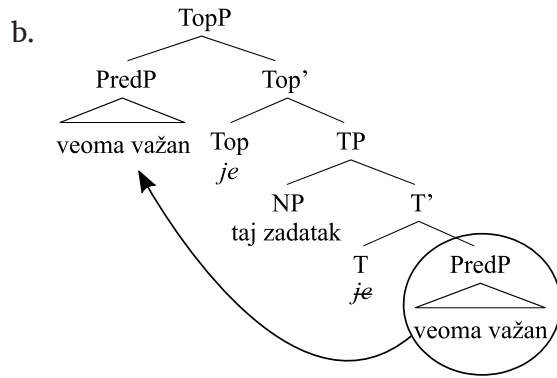
   b.

FirstWord cases within topicalized PP arguments, as discussed in section 4, shed further light on the interplay between prosodic and syntactic conditions on host selection: prosodic words eligible for FirstWord hosts are those sponsored by a left branch, even if that element belongs to the NP complement. Thus the morphosyntactic element sponsoring the initial prosodic word has to be a syntactic non-head, but does not have to be at the highest level of syntactic constituency, leading to potential mismatches between syntactic and prosodic constituencies.

   To summarize, in both cases of FirstWord clitic hosts, prosodic inversion is a consequence of the fact that the syntax does not provide a prosodically realized host in initial position – the initial specifier is occupied by an empty element in both cases. The argument initial case is distinguished from the predicate initial case in that the initial operator is associated with the [+contrast] feature.

   Finally, FirstPhrase placement in predicate initial sentences involves fronting of a PredP to a Topic position on the left periphery. As mentioned above, the fronting of the predicate induces a meaning in which the predicate invokes a set of meanings with which it is contrasted (Landau 2007). These are not expletive constructions, and the clitic (or clitics) is in the head of TopP, that is, the projection hosting PredP, as in (45). There is no vP/VP fronting to this left-peripheral position, only PredP may undergo Topic fronting – this construction is only possible with copular sentences. Similar restrictions on VP-fronting have been observed for South Slavic (Bulgarian, Czech, Slovak, and Slovenian) and Romance (Old Spanish, early forms of European Portuguese, and modern Romanian) by Rivero (1991) and Lema and Rivero (1989), but see Wilder and Ćavar (1994) for a claim that such VP-fronting is allowed in Croatian. Earlier accounts expressed the restriction in terms of the ECP – auxiliaries are not able to license VP traces.[4] We simply stipulate that VPs cannot be contrastive Topics in Serbian. As in the case of non-predicate fronting, the clitic attaches to PredP, and prosodically, to the preceding prosodic word.

(45)   a.   Veoma važan   **je**   taj   zadatak.   FirstPhrase, predicate
             very   important CL   this   task
             'This task is very important.'

---

[4] Rivero (1991) and Lema and Rivero (1989) do not consider the possibility of PredP fronting, but rather VP fronting in opposition to participle fronting.

b.

```
                        TopP
                       /    \
                  PredP      Top'
                 /    \      /   \
        veoma važan  Top    TP
                      je    /  \
                          NP     T'
                      taj zadatak  /  \
                                 T    PredP
                                 je   /    \
                                    veoma važan
```

6 Concluding remarks

We have proposed an account of clitic placement in Serbian in which FirstWord clitic placement is prosodic and FirstPhrase clitic placement is syntactic. While this may seem more complex than previous unified accounts, our analysis analysis is based on a substantially expanded data set, which raises empirical objections to the validity of a uniform approach.

We are, however, left with the puzzle of why FirstWord placement after the head in the argument initial case is less than felicitous. This issue was in fact addressed in Halpern (1995), who posited a prosodically based constraint to eliminate FirstWord hosts that correspond to constituent heads in a set of contexts he called fortresses. As in most previous work, his data included only argument initial cases. In addition, stating this constraint in prosodic terms makes it overly restrictive once predicate initial cases are included in the picture.

As characterized in our analysis, FirstWord placement in the predicate and argument cases differ in terms of information structure. In the argument case FirstWord placement is only possible after a specifier or adjunct on the left branch which is marked [+contrast]. We claim that this is due to the following constraint:

(46)   The head constraint: The head of an argument phrase cannot bear structurally induced contrast.

This constraint is reminiscent of conditions on the Nuclear Stress Rule, which avoids placing highest prominence on the head (Cinque 1993; Arregi 2002), or conditions on focus projection, with focus marking a non-head, but projecting out of the head (Selkirk 1995). In Serbian, a related condition is manifest in the local domain circumscribed by the clitic and its FirstWord host, stated here as (46). However, more work will be required to understand the full import of this condition.

Abbreviations

AUX = auxiliary, REFL = reflexive, CL = clitic, PW = prosodic word, Hd = head, GEN = genitive, DET = determiner, SPEC = specifier

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Competing Interests

The authors have no competing interests to declare.

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