Three approaches to second-position clitic reordering in Bosnian, Serbian, and Croatian

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1 Introduction
In this talk, I’ll discuss an issue in the larger problem of second-position clitic placement in Bosnian, Serbian, and Croatian. Based on certain assumptions, these clitics must sometimes undergo some kind of reordering to ensure that they follow a prosodic host.

I’ll compare three accounts of reordering, arguing that reordering is accomplished by Host Raising.

2 Data and assumptions
2.1 A description of second-position clitic placement
The second-position clitics (2PCs) in Bosnian/Serbian/Croatian include auxiliaries, pronouns, and two other particles (‘li’ ‘Q’, ‘se’ ‘REFL’).

In embedded clauses, 2PC placement is very regular. 2PCs almost always occur immediately after a clause introducer, whether a complementizer (a), relativizer (b), or wh word (c), and precede the rest of the clause:1, 2, 3

(1) 2PC placement in embedded clauses
   a. Očekujem [da će sve ovo ohrabriti turske privrednike].
      expect [C AUX all this encourage Turkish merchants ]
      I expect that all this will encourage Turkish merchants.
   b. … a [s kojima je lično Karter čekao Novu 1978].
      … but [with which AUX personally Carter waited new 1978]
      … but with whom Carter personally awaited the new (year) 1978.

c. Ne znam [zašto je Vlada odlučila isplatu vršiti …
      NEG know [why AUX govt. decided payment carry out …
      I don’t know why the government decided on payment …

In main clauses, 2PC placement is more variable. 2PCs can occur after the first word of their clause, after the first syntactic phrase, or later (c, late placement) (Browne 1975, Radanović-Kocić 1988, Halpern 1992):4

(2) 2PC placement in main clauses
   a. 2W: [Svi su se naši snovi ] srušili.
   b. 2D: [Svi naši snovi ] su se srušili.
   c. late: [Svi naši snovi ] # srušili su se.
      all AUX REFL our dreams fell
      All our dreams were dashed. (Q11)

• For many speakers, 2W orders with split NPs, as in (a), occur only if the first word is focused. For others, these orders are unmarked.
• 2D order (b) seems to be the most generally unmarked across dialects.
• Late placement (c) is conditioned by a prosodic boundary (marked #).

2.2 Assumptions concerning 2PC syntax
There are many accounts of 2PC placement in the literature. I’ll narrow the field of inquiry by adopting the following assumptions:

• The 2PCs are derived in syntax as parts of their clause.
• 2PC placement is influenced by the requirement that they be enclitic.
• Enclisis is enforced by general prosodic constraints.

Evidence that 2PCs occupy separate, hierarchical positions comes from (i) VP ellipsis, (ii) clitic splits, and (iii) adverb interpretations.

Under VP ellipsis, it’s possible to elide some 2PCs, but not others (a&b), indicating that unelided 2PCs are higher than elided ones:

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1 Abbreviations: ACC: accusative, AUX: auxiliary verb, C: complementizer, DAT: dative, lex: lexical word, NEG: negation, PRON: pronoun, Q: question, REFL: reflexive.
2 Conjunctions vary in whether or not they immediately precede following 2PCs. In addition, the conjunction ali ‘but’ and the complementizer jer ‘because’ usually host following 2PCs, but are sometimes separated from them by a topic or focus.
3 Data are from a corpus of journalistic and government text (of approximately 150,000 words), unless otherwise noted. Some examples are abbreviated. Some examples, marked Q, are from a questionnaire given to native speakers.
4 In cases of late placement, 2PCs usually immediately follow the main verb. Example (c) above is degraded for many speakers not only by late placement, but also because 2PCs are generally avoided at the ends of sentences.
VP ellipsis shows AUX > DAT > ACC

a. ? Mi smo mu ga dali, a i vi ste mu ga dali, (takodje).
b. ? Mi smo mu ga dali, a i vi ste mu ga dali, (takodje).
c. * Mi smo mu ga dali, a i vi ste mu ga dali, (takodje).

We gave it to him, and you did too. (Stjepanović 1997)

Clitic splits, too, where some clitics are pronounced in a higher clause, and others in a lower clause, indicate that 2PCs occupy hierarchical positions.

Clitic splits show DAT > ACC

a. Marija želi [da mu ga predstavi. ]
b. ? Marija mu želi [da ga predstavi. ]
c. * Marija ga želi [da mu predstavi. ]

Marija wants to introduce him to him. (Stjepanović 1997)

Last, auxiliary 2PCs allow a sentential or manner reading of a following adverb (a), while pronominal 2PCs allow only a manner reading (b):

Adverb interpretations show AUX > sentential adverbs > PRON

a. Oni su mudro prodali auto.
   they AUX wisely sold car
   sentential: ‘It was wise of them to sell the car.’
   manner: ‘They sold the car in a wise manner.’
b. Oni su ga mudro prodali.
   they AUX it wisely sold
   * sentential: ‘It was wise of them to sell it,’
   manner: ‘They sold it in a wise manner.’
c. * Oni su mudro ga prodali.
   (Bošković 2001)

Based on these observations, I’ll assume that 2PCs occupy high inflectional positions between C and V (Franks & King 2000):

2PCs occupy inflectional positions between C and V

This accounts for why 2PCs follow complementizers and other C elements in subordinate clauses, but not for the variety of 2PC orders in main clauses. For this, we’ll require an account of reordering.

2.3 Assumptions concerning 2PC prosody

It’s also now generally assumed that the 2PCs are necessarily enclitic on a preceding host, and that this influences their placement.

Radanović-Kocić (1988, 1996) showed that late placement results from the presence of a prosodic break across which 2PCs can’t encliticize. Such a break isn’t necessarily a pause, and can occur after an initial topic (a), after a long initial constituent (b), or after a parenthetical constituent (c):

A prosodic break induces late placement

a. [Sa mnom] # sve je u redu.
   [with me ] all AUX at order
   Everything’s okay with me.

5 This contradicts proposals that the 2PCs are inserted post-syntax as phrasal affixes (Anderson 1992, 2005, O’Connor 2000). I also reject the strong syntax approach (Progovac 1996, 2000, Rivero 1997): that is, that 2P orders are motivated by a requirement that some pre-2PC position be filled in the syntax. The arguments are, briefly: (i) The requirement is undesirably disjunctive, satisfied by a host in C°, in specifier of CP, or by a verb adjoined to an auxiliary 2PC. (ii) There’s at least one real topic/focus position between C° and the 2PCs. (iii) In any case, late placement shows that 2PC placement is at least partly motivated by prosody.

6 The evidence that 2PCs are enclitic includes that they (i) never bear stress, (ii) can induce stress on a preceding function word host, (iii) can contain bimoraic syllable nuclei, (iv) can undergo sandhi with a preceding verb, and (v) can undergo other segmental assimilations (Radanović-Kocić 1988, 1996, Werle 2004).
b. [Kolutovi plavičastog dima ] # penjali su se.
   [circles bluish smoke] rose AUX3P REFL
Circles of bluish smoke were rising.

c. Ja, [tvoja mama], # obećala sam ti igračku.
I [your mom] promised AUX you toy
I, your mom, promised you a toy.

Further, contrary to proposals that the 2PCs are underlyingly specified for 
enclisis (Zec & Inkelas 1990, Bošković 2001, Zec 2002, 2005), I adopt the 
interface constraint approach to clisis, whereby enclisis results from 
general constraints on the alignment of lexical and prosodic words (Selkirk 

(8)  *The interface constraint approach to clisis*

```
  snovi_lex su se srušili_lex | Exh/P/s | AL-L(w,lex) | AL-R(w,lex) |
  a. →(snovi su se)(srušili)  |       |             |             |
  b. (snovi)(su se)(srušili)  |   *!   |             |             |
  c. (snovi) su se (srušili)  |   *!   |             |             |
```

EXH/P/s: a phonological phrase doesn’t directly parse a syllable.
AL-L(w,lex): a prosodic word is left-aligned with some lexical word.
AL-R(w,lex): a prosodic word is right-aligned with some lexical word.

Thus enclisis and prosodic word parsing are driven by the same constraints.

3 Three approaches to 2PC reordering

Now to return to 2PC placement in general, let’s look at how prosodically 
driven reordering yields the variation in 2PC placement in main clauses.

The following diagram shows how three alternative 2PC orders are parsed 
into prosodic words:

(9)  *2W, 2D, and late placement*

```
a. 2W: (Svi su se)(naši)(snovi) (srušili).
b. 2D: (Svi)(naši)(snovi su se) (srušili).
c. late: (Svi)(naši)(snovi) # (srušili su se).
```

Based on my assumptions concerning 2PC syntax, I’ll assume the following 
alternative inputs to PF. The structure in (a) is the unmarked one, while the 
topicalized structure in (b) will induce a prosodic break after the subject:

(10)  *Possible inputs to PF*

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a. unmarked  b. topicalized subject
```

Now let’s look at three approaches to accounting for the possible 2PC 
placements: Prosodic Inversion, Copy Selection, and Host Raising.


- At PF, if 2PCs lack a host, they invert with a following prosodic word.
- PI is a prosodic operation, making no reference to syntactic structure.

(11)  *Reordering by Prosodic Inversion*

```
[vp]  [ip]  [vp]
2W:  su se (svi su se)(naši)(snovi)(srušili)
2D:  (svi)(naši)(snovi su se) svi naši snovi (srušili)
late: (svi)(naši)(snovi) # su se svi naši snovi (srušili su se)
```

- An unmarked input results in 2W order.
- 2D order requires topicalization in syntax, without a prosodic break.
- Only 2W and late orders involve inversion.
Copy Selection (CS, Franks 1999, Bošković 2000, 2001)\(^7\)
- 2PC chains are built in syntax.
- At PF, pronounce the highest copy of the 2PCs with a viable host.
- 2PCs don’t move at PF.

(12) Reordering by Copy Selection

\[
\begin{array}{|c|c|c|c|}
\hline
\hline
2W: & (svi & su & se) & su & (naši)(snovi) & srušili & su & se & (srušili) \\
2D: & (svi)(naši)(snovi) & su & se & (svi)(naši)(snovi) & srušili & su & se & (srušili) \\
late: & (svi)(naši)(snovi) & # & su & se & svi & naši & snovi & (srušili) & su & se & (srušili) \\
\hline
\end{array}
\]

- 2W placement requires topicalization in syntax.
- An unmarked input results in 2D order (in contrast to PI).

Host Raising (HR)
- Syntactic structures and constraints on movement persist at PF.
- At PF, if 2PCs lack a host, the nearest viable host raises to precede them.

(13) Reordering by Host Raising

\[
\begin{array}{|c|c|c|c|}
\hline
\hline
2W: & (svi & su & se) & su & (naši)(snovi)(srušili) \\
2D: & (svi)(naši)(snovi) & su & se & (svi)(naši)(snovi)(srušili) \\
late: & (svi)(naši)(snovi) & # & (srušili) & su & se & svi & naši & snovi & srušili \\
\hline
\end{array}
\]

- An unmarked input yields either 2W or 2D order; the choice between them is determined by (dialect-specific) constraints on movement.
- The 2PCs don’t move, only other things in the clause move.

(14) PF movement? syntax at PF? topicalization?

<table>
<thead>
<tr>
<th></th>
<th>no</th>
<th>no</th>
<th>required for 2W</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copy Selection</td>
<td></td>
<td></td>
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<tr>
<td>Prosodic Inversion</td>
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<td>no</td>
<td>required for 2W</td>
</tr>
<tr>
<td>Host Raising</td>
<td>yes</td>
<td>no</td>
<td></td>
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</table>

4 Arguments for the Host Raising approach

4.1 Arguments from host splitting

Prosodic Inversion and Copy Selection require topicalization in syntax in order to get either 2W or 2D order—this results from their efforts to describe reorderings that make no reference to syntactic constraints.

However, it’s my impression that some cases of host splitting (that is, where a constituent is split in order to provide a 2PC host) are unmarked for some speakers and some styles, though it’s difficult to prove this.

While most speakers favor 2D orders, speakers also generally agree that some kinds of host splitting are less marked than others. For example, determiner-like adjectives are most easily split from a following NP (a), while other adjectives (b) and N heads (c) are harder to split from NPs:\(^8\)

(15) Different kinds of 2W host splitting

a. [Svi su se naši snovi ] srušili.  
   [all AUX REFL our dreams] fell  
   All our dreams were dashed. (Q11)  
   grammaticality: 1.33/3 I could say this: 4/8 respondents

b. ? [Školski su prijatelji mojih roditelja] već bili kod kuće.  
   [school AUX friends my parents] already were at home  
   My parents’ school friends were already at home. (Q14)  
   grammaticality: 2.29/3 I could say this: 2/8 respondents

c. ? [Vlada će Bosne i Hercegovine] aktivirati ovaj program.  
   [govt. AUX Bosnia and Herzegovina] activate this program  
   The government of Bosnia and Herzegovina will activate this program. (Q6)  
   grammaticality: 2.31/3 I could say this: 1/8 respondents

This indicates that splitting is mediated by constraints on movement. The question is whether such splitting can happen at PF, or whether it

\(^8\) These marks are to be interpreted as follows. First, respondents were asked to judge each sentence on this scale. 1: I could say this, 2: I wouldn’t say this, but someone else might, 3: No one would say this. The second statistic indicates how many of eight core respondents judged the sentence a 1.
necessarily happens in syntax. If it does happen in syntax, then host splitting should always lead to a marked interpretation of the split word. Progovac 1996 claims that all phrases splittable by 2PCs are also splittable by other kinds of movement (e.g. wh movement, focus). However, the question is not whether splitting for 2PCs and for other other purposes are both possible, but whether they’re equally marked.

Browne 1975: “The choice between ‘first word’ and ‘first phrase’ in placement of enclitics is often a matter of individual taste … In general it is more old-fashioned and literary to break up a phrase by putting the enclitics after the first word.”

In a 150,000 word corpus, several determiner-like adjective splittings have come to light, but the other splittings illustrated above are rare:

(16) Some host splittings in a journalistic and government corpus

a. [To će vam se vrijeme] činiti kao cijeli sat.
   [that FUT3S 2DP REFL time] do like whole hour
   That time will seem to you like a whole hour.

b. [Ova se kompanija] nije zadužila niti jedan fening.
   [This REFL company] NEG+AUX3S obligate nor one penny
   This company hasn’t gotten even one penny into debt.

However, I have yet to check these, in context, with a native speaker to verify that these splittings aren’t intended to give marked interpretations.

But there are clearer data from other languages of host splittings that are ungrammatical in other contexts. In Russian, the 2PC li necessarily splits otherwise unsplittable constituents (King 1994, Franks & King 2000):

(17) Russian li splits otherwise unsplitable constituents

a. [Knigu li o russkom jazyke] on čitajet?
   [book Q about Russian language] he reads
   Is it a book about Russian that he’s reading?

b. [Na etom li zavode] on rabotajet?
   [on this Q factory] he works
   Does he work at this factory?

(King 1994, Franks & King 2000)

Chung 2003 reports a similar case for 2PCs in Chamorro: 2PC placement can split constituents that aren’t splittable by other kinds of movement.

For now, I conclude that there’s good evidence from Russian and Chamorro, and less clear evidence from Bosnian/Serbian/Croatian, that some cases of 2PC placement are prosodically motivated, but mediated by constraints on movement.

4.2 Arguments from prosodic structure-building

A major difference between Host Raising and the other two approaches to reordering is that Host Raising allows prosodic and syntactic constraints to interact at PF. I’d like to suggest that the possibility of such interaction is supported by other phenomena as well.

Prosodic structure building requires copresent syntactic and prosodic structures (Nespor & Vogel 1986, Selkirk 1986, Hayes 1989). Host Raising, then, plausibly occurs during prosodic structure-building, and according to the interface constraint analysis of elision (see above), is motivated by the same constraints that are needed for prosodic word parsing.

Some other phenomena are also argued to require interactions of prosodic and syntactic structures and constraints, including Heavy NP Shift in English, topic weight restrictions in Bosnian/Serbian/Croatian (Zec & Inkelas 1990), haplogogy avoidance in Ancient Greek (Golston 1995), movement to nuclear stress in Spanish (Zubizarreta 1998), and subject-verb inversion in Chishona (Harford & Demuth 1999).

5 Conclusion

To conclude, I’ve offered some arguments in favor of the Host Raising approach to 2PC reordering.

First, both PI and CS require apparently unmotivated topicalizations in syntax in order to account for certain 2PC orders. Under the Host Raising approach, these orders are motivated at PF by the same prosodic constraints that favor 2PC enclisis.

Second, I proposed that the persistent syntactic structure and constraints on movement required at PF by the Host Raising approach are needed
independently for prosodic structure building, as well as for some other phenomena that involve prosody-syntax interaction.

However, I see two main problems for the Host Raising approach:

- defining the constraints on movement that mediate hist raising and host splitting, and how these interact with prosodic constraints.
- resolving the question of how robust prosodically motivated host splitting is in Bosnian/Serbian/Croatian.

I leave these issues for future work.


