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THE CLITIC *LI* AT THE SYNTAX-PHONOLOGY INTERFACE: AN EXPERIMENTALLY INFORMED ACCOUNT[2]

Abstract: Among Serbo-Croatian (SC) clitics, the interrogative *li* seems to be unique in showing a peculiar type of sensitivity with respect to the type of host it cliticizes (on)to. Whereas *li* is unproblematically hosted by a finite verb, when hosted by an *l*-participle, the outputs are treated as fully ungrammatical. Be it in syntax or in phonology, current accounts in the literature overgenerate by predicting the ungrammatical constructions to be grammatical, and undergenerate by predicting grammatical outputs in SC to be ungrammatical. Moreover, native speakers' judgements regarding the *l*-participle *li* construction suggest a more gradient judgment than standardly assumed in the literature. We present results of a large-scale experiment undertaken not only because of the unclarities regarding the acceptability judgments we encountered for *l*-participle *li*, but, first and foremost, because of the lack of prior empirical investigations or established baseline of acceptability in the domain that has, otherwise, been a prolific and important domain for theorizing in SC. On the theoretical side, we argue that the crux of the solution is not due to the defectiveness of *li* (as previously argued), but due to the [-finite] nature of participles. Testing our hypothesis against the data obtained in a systematic manner, we further demonstrate that the gradedness in (un)grammaticality judgments are accounted for by analyzing the interplay as well as the tensions that arise at the syntax-phonology interface.

Key words: syntax-phonology interface, P2, questions, c-system, finiteness

1. The Puzzling *li*

SC distinguishes three types of clitics: pronominal clitics, auxiliary clitics, and the interrogative clitic *li*. At PF (phonology form), there is a strict ordering of clitics, with the clitic *li* always appearing first in any cluster (1a). A partial linear ordering is illustrated in (1b).[3]

(1) a. **li** ⊳ AUX[−3SG] ⊳ DATφ ⊳ ACCφ ⊳ GENφ ⊳ AUX[3SG]φ
b. Da **li** **su** **mu** **ga** dali?
COMP Q CL.AUX.3PL he.CL.DAT he.CL.ACC give.PRT.PL.M.
'Have they given it to him?'

Using *li* is the default way to form polar(ity) questions in SC and since SC is a second-position clitic language, quite like other clitics, *li* also cliticizes onto a host to its left. Though placing SC clitics in positions other than P2 (be it W1 or P1) within their intonation phrase (generally) leads to ungrammaticality (see Bošković 2001 et seq.), their hosts can belong to different categories: X^0s or XPs, arguments or non-arguments. Indeed, as illustrated below, pronominal and auxiliary clitics behave exactly as expected.[4]

[2] We are grateful to the audience of *PNCL10 - 10th Workshop On Psycholinguistic Neurolinguistic and Clinical Linguistic Research* and two anonymous reviewers for their generous interaction - questions, observations, and suggestions - with the first version of this paper. We profited immensely from it and we hope this is also well reflected in the current version of the paper. All the errors remain our own.

[3] '⊳' indicates linear order, at PF.

[4] For ease of reference, recall the P2 here means that, being enclitics, rather than being found immediately adjacent to the intonation phrase boundary, SC clitics undergo Morphological Merger at PF with (i.e., cliticizing (on)to) a host element that is itself adjacent to the boundary (i.e. a host to the left). Hence, rather than viewing P2-ness of SC clitics as a 'fact of their nature', as noted in

(2) a. **Šta[XP-ARG]** *ti* *je* dao Tristram?
what you.CL.DAT CL.AUX.3SG give.PRT.SG.M Tristram.NOM
'What did Tristram give you?'

b. **Juče[XP-ADJ]** *mi* *je* Tristam *dao* knjigu.
yesterday me.CL.DAT CL.AUX.3SG Tristram.NOM give.PRT.SG.M book.ACC
'Yesterday, Tristram gave me a/the book.'

c. **Hoćeš[X^0]** *mi* dati knjigu?
will.PRES.2SG me.CL.DAT give.INF book.ACC
'Will you give me the book?'

The interrogative clitic *li*, however, seems to behave in a puzzling way with respect to the type of host it cliticizes (on)to (3). Whereas *li* is argued to be unproblematically hosted by a finite verb (3a), when hosted by an *l*-participle (3b), i.e. an active participle of the verb, the sentences are standardly treated as ungrammatical. Be it in syntax (see Migdalski 2009 and the references there) or in phonology (see Schwabe 2004), all theoretical accounts of this puzzling behavior root it in the defectiveness of *li*.

(3) a. Ljubi li Mariju?
kiss.PRES.3SG Q Maria.ACC
'Does he kiss Maria?'

b. *Poljubio li je Mariju?
kiss.PRT.SG.M Q AUX.CL.3SG Maria.ACC
'Did he kiss Maria?' (Bošković 1995:251)

In this paper, we argue that both the puzzle and the proposed solutions, however, require a second look.

Note that the judgments we elicited from native speakers regarding the *l*-participle *li* construction like (3b) suggest more gradient (un)grammaticality judgments than standardly assumed.

It is for this reason that the paper splits into two natural parts - an experimental and a theoretical one. We present the results of a large-scale experiment we undertook not only because of the unclarities regarding the grammaticality judgments we encountered for (3b), but, first and foremost, because of the lack of prior empirical investigations or established baseline of acceptability in the domain that has, otherwise, been a prolific and important domain for theorizing in SC.

On the theoretical side, we argue that the crux of the solution is not due to the defectiveness of *li*, but to the [-finite] nature of participles. Testing our hypothesis against data we obtained in a systematic manner, we further demonstrate that the gradedness in acceptability judgments can be explained given the syntax-phonology interplay we assume here.

Bošković (2001), their P2-ness should be seen as a way of SC clitics to satisfy their conflicting requirements to i) be adjacent to an intonation phrase boundary and, at the same time, ii) be a suffix. Since SC allows Left Branch Extraction, the clitic can be hosted by either a word (1W), in (ia) - *skupu* undergoes LBE from within [NP skupu kuću] or a phrase (1P). In (ib) – *skupu kuću* moves in its entirety, as a phrase. As elaborately discussed in Diesing and Zec (2011), different structural, prosodic, and discourse factors affect the acceptability of first word (W1) or first phrase placement (P1). We return to this issue in §4.

(i) a. Skupu **je** kuću kupila.
expensive.ACC CL.AUX.be.3SG house.ACC buy.PRT.SG.F
b. Skupu kuću **je** kupila.
expensive.ACC house.ACC CL.AUX.be.3SG buy.PRT.SG.F
'She bought an expensive house.'

The paper is organized as follows: §2 presents the experiment, its underpinning, goals, method, and set-up. The results of the experiment are presented in §3, whereas the data analysis and discussion are found in §4. §5 concludes the paper.

2. Experiment

2.1. Background and Rationale

In a series of works, Migdalski (see Migdalski 2009 and references there) argues that *li* is deficient in the sense that it can allow only heads to host it. For convenience, the central tenets to the deficiency of *li* under Migdalski's account are spelled out in (4):

(4) a. *Li* is hosted by an X^0
b. *Li* cannot be hosted by an XP

Given the contrast between the (3a) and (3b), under his analysis, *l*-participles cannot be X^0s. Indeed, Migdalski argues that due to their properties, *l*-participles must undergo XP movement, which amounts to stating that they are XPs, rather than X^0s (see also Migdalski 2006: Ch.2 for elaboration).

As already pointed out in the introduction, however, SC data directly challenge (4b). Since there is no established baseline of acceptability, however, we opted for a systematic, large-scale study pertaining to the current native speakers' judgments in the domain under consideration here. We opted for a 1x3 design with *Clitic* and *Host* as independent variables. As we elaborate shortly (section 3.2), we constructed a set of data where *li* is unambiguously hosted by an X^0 (testing the validity of (4a)) and a set of data where it is unambiguously hosted by XPs (testing the validity of (4b)). Finally, though the central claim of Migdalski's account is about the deficiency of *li*, bearing in mind that even our own initial findings about the status of *l*-participle *li* seem inconclusive, our third condition comprises sentences in which *li* is hosted by an *l*-participle.

Our decision to choose the truth value/acceptability judgment task in the form of an online questionnaire was guided by the lack of empirical investigations into the research domain of the clitic *li* and the need to establish a baseline of acceptability of SC clitic *li* data in a systematic manner.

Once created, the link to the questionnaire was shared via the (social media) network of the research team. The questionnaire took approximately 10 minutes to complete and participants were not remunerated for their time.

2.2. Participants

To make up for the general lack of experimental data in this domain, we included a number of demographic variables (e.g. age, gender, region of origin) in the study. Participants also needed to indicate if they were a linguist/linguistics student or a language teacher. Considering that the evaluation of *l*-participle *li* construction as fully ungrammatical is consistent across the prescriptive grammar sources, we aimed to be able to eliminate any potential professional bias among the participants such that they may be more inclined to answer in accordance with or as a reaction against prescriptive rules, rather than their own judgments.

A total of 105 participants completed the study, three or whom were excluded because they reported that they were not native speakers of SC. The sample included 80 women and 22 men with the mean age of 31.97 (min=18, max=57). The participants originated from different parts of Serbia, but the majority reported Belgrade (N=34) and Kraljevo (N=20) as their domiciles. One third of the participants belonged to the linguist/linguistics student and 19 of the participants to the language teachers group. In order to ensure that these factors were not confounds, the mean acceptability scores were calculated for all the participants

and for only the participants that did not belong to these two groups. Since no significant difference in mean acceptance per condition were found, they were included in the overall analysis.

2.3. Stimuli

The study design has *Clitic* and *Host* as independent variables. While the Clitic factor/variable does not vary and it is constant throughout the conditions (i.e. it is always *li*), the *Host* factor/variable has three levels; Condition A contains a finite verb (i.e. an unambiguous head) as a host, Condition B features an active past participle – *l*-participle as a host of *li*, and Condition C features a *wh*-word (an unambiguous case of XP) as a host for the clitic *li*. This way, it is possible to test if *li* can be hosted by XP as well as to independently assess the status of *l*-participle as a host. Each of the three conditions has six observations, so there is a total of 18 test items. The three conditions are illustrated in (5).

(5) a. Jede **li** hleb? X^0-HOST
eat.PRES.3SG Q bread.ACC
'Is she/he/it eating bread?'

b. Jela **li** **je** hleb? *l*-participle-HOST
eat.PRT.SG.F Q CL.AUX.be.3SG bread.ACC
'Has she eaten bread?'

c. Šta **li** jede? XP-HOST
what.ACC Q eat.PRES.3SG
'What is she/he/it eating?'

We included 18 filler items to ensure that the participants do not establish a strategy in completing their task. These items concern the order of pronominal and auxiliary clitics within their cluster (6):

(6) Prodao **mi** **ga** **je.**
sell.PRT.SG.M me.CL.DAT it.CL.ACC CL.AUX.be.3SG
'He sold it to me.'

Finally, four items with unambiguous 'no' answers were included as controls; to avoid the 'yes'-bias as well and to ensure that the participants pay attention. These control items were sentences with pronominal and auxiliary clitics clustered in a way that is fully ungrammatical (7):

(7)*Kupila **je** **ga** **mi.**
buy.PRT.SG.F CL.AUX.be.3SG it.CL.ACC me.CL.DAT

Participants who accepted these items were excluded from further analysis.

3. Results

Both descriptive and inferential statistics were done using R and RStudio (R Core Team, 2022). As can be seen in Figure 1, Condition A, in which *li* is hosted by X^0, has an acceptance rate of 87.6%. Items in which *li* is hosted by an *l*-participle (Condition B) have an acceptance rate of 35.6% and those featuring an XP hosting *li* - 64.8%.

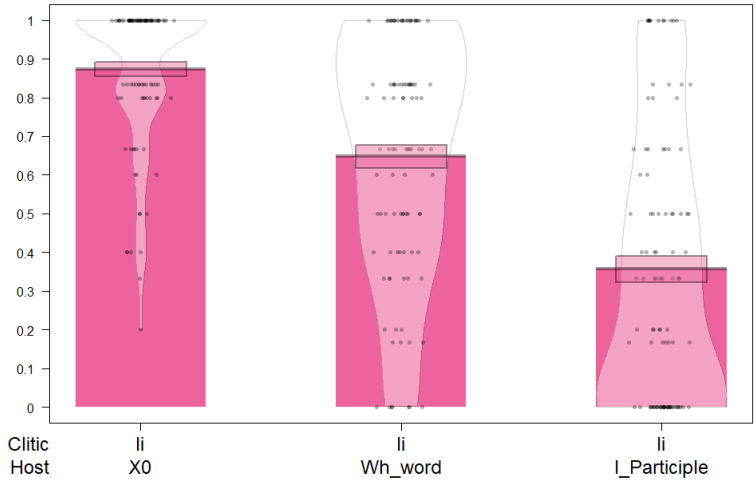

Figure 1. RDI (Raw data, Description and Inference) plot with standard errors. Bars show aggregate acceptance rate, lines show the distribution of answers, and each dot represents the mean of an individual participant's answers

After this, a generalized logistic mixed effects analysis of the relationship between the fixed effects, the random effects, and the answers was made using R (R Core Team, 2022) and the package lme4 (Bates, Maechler & Bolker, 2015). The best model was determined in an additive, stepwise manner, by comparing AIC values. The final model consisted of *Host* as a fixed effect (with the participle condition as the Intercept) and *Subject* and *Items* as random effects (Figure 2).

Formula: Answer ~ Host + (1 + Host | Subject) + (1 + Host | Item.No)				
	Estimate	Std. Error	Z value	Pr(>|z|)
(Intercept) l-participle	-1.10	0.29	-3.84	<0.00001
Host X^0	3.71	0.41	9.09	<0.00001
Host XP (*wh*-word)	2.09	0.35	6.02	<0.00001

Figure 2: The Best Model

There was a main effect of *Host* (β= 3,71, z= 9,09, *p*< 0.00001, for X^0, and β= 2,09, z= 6,02, *p*< 0.00001 for *wh*-word), which means that both X^0 and *wh*-words were significantly more likely to be judged YES than the Intercept (i.e. the items where the Host was an *l*-participle). In addition, the best model had the random slope of *Host* for both the *Subject* (participants) and *Item. No* (items), meaning that the variation of responses depended on the type of host for the participants and the items we used (which were retained as a random effect in the model). None of the demographic variables were retained in the model.

Importantly for our discussion, upon further inspection of the acceptance ratings per item, it appeared that the crux of variation arose in Condition C, where *li* was hosted by a *wh*-word, with the lowest acceptability of 35.8% and the highest of 86.7%. We return to discussing the issue in 4.4.

4. Data Analysis and Discussion

4.1. *li* hosted by X^0

The acceptance rate of items in Condition A was computed to be 87.6%. The fact that the vast majority of speakers accepts polar (*yes-no*) questions of the structure V^0-*li* is expected, since the default way of forming polar questions in SC is by utilizing the clitic *li*. Rather, the question one could ask is why the acceptance rate in Condition A was not 100%. We return to this question directly.

Though a percentage of 12.4% of rejection cases could plausibly be explained by extralinguistic factors (fatigue, problems sustaining attention etc.), it is not entirely clear that these factors can account for the full 12.4% of rejections. Some participants left us (unsolicited) comments that seem suggestive that their 'rejections' might have been about preference, rather than judgements of grammaticality. For instance, some of the participants remarked that they would prefer the complementizer/particle *da* as a host of *li*, as in (1b) and (8).

(8) **Da** **li** je voliš?
COMP Q CL.AUX.be.3SG love.PRES.2SG
'Do you love her?'

Whether any of the demographic variables make relevance to the preference or if it is just a idiolectic choice, must be left for further research.[5] It is far from trivial to tell which factors facilitate the choice of *V-li* over *da li*, or vice versa, in general. Semantically, *da li* and *V-li* polarity questions seem quite on a par. Both types of polarity questions seem also neutral with respect to the information structure: they can occur either with information focus (9a), (9c) or with identification focus (9b), (9d):

(9) a. Čita$_i$ **li** Tristram$_j$ [t_j t_i interesantne$_F$ KNJIGE$_F$]$_F$
read.PRES.3SG Q Tristram.NOM interesting.ACC books.ACC
'Is Tristram reading interesting books?'

b. Čita$_i$ li Tristram$_j$ [t_j t_i INTERESANTNE$_F$ knjige]]?
read.PRES.3SG Q Tristram.NOM interesting.ACC books.ACC
'Are the books Tristram is reading interesting?'

c. Da li Tristram čita interesantne KNJIGE?
COMP Q Tristram.NOM read.PRES.3SG interesting.ACC books.ACC
'Is Tristram reading interesting books?'

d. Da li Tristram čita INTERESANTNE knjige?
COMP Q Tristram.NOM read.PRES.3SG interesting.ACC books.ACC
'Are the books Tristram is reading interesting?'

Other participants suggested that *da l'/je l',* the contracted forms of *da li* and *je li*, respectively, would be their preferred option. Such a preference would suggest register (formal vs. informal) as relevant.

[5] One of the anonymous reviewers points out that speakers in Bosnia/Croatia might have a preference for V-*li* over *da-li*. We are grateful to them for noting this. It was, indeed, our reason to include 'region' as a variable. Since the majority of our participants happened to be homogeneous geographically, listing either Belgrade or Kraljevo as their domicile (recall 2.2), we did not retain demographic variables.

Importantly for our discussion,[6] the discrepancy does not seem to bear any relevance for our current discussion about the acceptability judgments regarding the hosts of *li*. Whatever the preferences are rooted in, it seems reasonable to assume that they have nothing to do with the grammaticality of the *V-li* construction.

4.2 The Syntax of Polarity Questions in SC

Since Chomsky (1986), it has been standardly assumed that the Complementizer Phrase (CP), headed by Complementizer (C), mediates between the propositional content of sentences and discourse. Whereas IP/TP expresses the propositional content of the sentences, the type of clause (e.g. declarative, interrogative, imperative, exclamative) is expressed by C. Sometimes, C is expressed by overt morphology; e.g. *if* (English conditionals) or *li* (polar questions in SC).

The conception of a single, unarticulated, CP-layer has been challenged by numerous researchers (Hoekstra 1993; Rizzi 1997; Cinque 1999, to name but a few), who argued for an expended, articulated, CP-domain that can accommodate not only C, but a whole array of different types of phenomena in the left periphery of the sentence, related to discourse (e.g. topicalization, focalization).

We take Rizzi's (1997 et seq.) Split-CP hypothesis as the theoretical frame within which our analysis of *yes/no* questions is set:

(10) Force. ..(*Topic) ...(Focus) ... Fin IP (Rizzi 1997: 8)

As illustrated in (10), Rizzi proposes a rich and articulated left periphery, with functional projections hosting hierarchically constrained, scope and discourse-related elements (see Rizzi 2014 for further details and deliberations). The core of Rizzi's rationale in favor of the Split-CP hypothesis is rooted in his careful inspection of the role of the complementizer/C-system in the broader layout of the clausal structure and the recognition of the double-role of C. The complementizer system is the interface between a propositional content (IP/TP), on the one hand, and the superordinate structure (the articulation of discourse), on the other hand.

In this more articulated C-domain, the upward delimitation of the domain is Force and the downward delimitation is Finiteness. Whereas Force (F^0) expresses the clause type (declarative, interrogative, imperative, exclamative, etc.), Finiteness (Fin^0) expresses the finite or non-finite character of the clause. This elaborate C-domain (carved out by Force and Fin) further expresses a number of different scope and discourse-related properties like topicalization (Topic Phrase) and focus (Focus Phrase). Typically, not all of the positions are lexicalized. Hence, Force in English conditionals is lexicalized as *if*, whereas Force in finite declarative embedded clauses is lexicalized as *that*.[7] In non-finite clauses, Fin in English is lexicalized as a prepositional complementizer *for*. There are also cases within a single language where overt morphology alternates with covert morphology. For instance, as indicated in *I think (that) people, in general, are ok*, the complementizer *that* [+declarative,+finite] alternates with its morphologically null counterpart.

[6] The host of the clitic can be either a lexical (ia) or an auxiliary (ib) verb. The only caveat is that the verb is in its full form. A clitic auxiliary cannot be accented and hence makes a poor host for *li* (ic) (see Franks and King 2000 for discussion).

(i) a. Imaš li knjigu?
have.PRES.2SG Q book.ACC
Do you have the book?
b. Jesi li kupila knjigu?
CL.AUX.BE.2SG Q buy.PRT.SG.F book.ACC
c. *Si li kupila knjigu?
CL.AUX.BE.2SG Q buy.PRT.SG.F book.ACC

[7] A theory-neutral way to understand clause types is as the pairing of formal properties with illocutionary forces.

Following Rizzi, we will also assume that in SC, it is the ForceP that contains the information about the sentence type feature. In the case of a polar question, the feature is [Q] – located in F^0. We will further argue that this feature is licensed by *li*.[8]

Though *li* is sufficient to license Q, due to its P2 nature, *li* needs a host. The syntax of *V-li* examples like the test item in (5a) is as in (11), with the finite verb moving – via T & Fin – to Force in order to support *li*.[9]

(11) [$_{\text{ForceP}}$ [$_{\text{F}}$ jede+li] [$_{\text{Fin}}$ [$_{\text{F}}$ ~~jede~~][$_{\text{TP}}$ [$_{\text{T}}$ ~~jede~~] [$_{\text{vP}}$/$_{\text{VP}}$ ~~jede~~ hleba]]]]]]

Bošković (1995 et seq.) provides overwhelming evidence showing that though P2 is a phonological requirement, it is syntax that provides the hosts for clitics to be able to satisfy this PF requirement.[10] Coupled with the analysis we presented so far, it follows that any element that can independently move in syntax will be a legitimate host of *li* and an acceptable candidate for the clitic to satisfy its P2 requirement in phonology. We return to this point in more detail in 4.5.

4.3. *li* hosted by XP

Test items where *li* was hosted by a *wh*-element were accepted in 64.8% of the time. Given the standard assumptions about the landing site of *wh*-words in SC and the analysis presented above, it should not come as a surprise that most native speakers accepted the *wh-XP-li* construction. In line with the analysis presented in 4.2., we claim that if an element can independently find itself in the CP domain in syntax, there should be nothing preventing it from being a legitimate host for *li*.

Before spelling out the analysis of the *XP-li* construction, however, we first turn to discussing the variation noted in §3. Namely, recall that, upon closer inspection of the different acceptance ratings per item, it appeared that the crux of variation arose in Condition C, with the lowest acceptability of 35.8% and the highest of 86.7%.

Since it pertains to individual items, it was clear that this discrepancy is unlikely to be rooted in any of the demographic variables. On a closer inspection, the low ratings uniformly appeared for those cases that contianed fronted *wh*-XPs of direct and indirect objects. The example ***Kakvim ljudima*** *li si iznajmila stan*/*What kind of people did you rent the apartment to?* is one such test item. What is important to note about such XPs is that they allow Left Branch Extraction, the result of which is that they allow clitics to satisfy their P2 either by W1 (after the first word of the phrase) or by P1 (after the first phrase) within their intonation phrase. We chose P1 clitic placement because it is the neutral/unmarked one, but, on further examination of the data, we hypothesized that the *wh-XP-li* construction might be better with the marked (W1) clitic placement.

In order to test the validity of our assumption, we created a follow-up in the form of a judgment task in which participants were presented with 12 test items in two conditions: condition A and condition B, (12a) and (12b), respectively. In Condition A, *li* cliticizes onto the entire phrase i.e., P1 and in condition B,

[8] Following Chomsky (1995), Rizzi uses the label F(orce) instead of C, but the core of the insight about clause-typing goes back to the Clausal Typing Hypothesis Cheng (1991):

(i) Clausal Typing Hypothesis
Every clause needs to be typed.

In the case of a *wh*-question, either a *wh*-particle in C° is used or else fronting of a *wh*-word to the Spec of C° is used, thereby typing the clause through C° by spec-head-agreement.

[9] Positioning *li* in C is quite uncontroversial in SC (see Bošković 2000 et seq. and the references there). Considering that we argue *li* ultimately always ends up in Force, one might wonder why we bother with the more elaborate structure here. As we hope to demonstrate, the more articulated structure of the C-domain allows us to show that, though *li* ultimately ends up in Force, across different constructions, *li* starts its life in different positions within the C-domain.

[10] The reader is referred to Ćavar and Wilder (1994, 1996), Franks and Progovac (1994), Progovac (1996), Franks (1998/1999, 2000), Franks and King (2000), and especially Bošković (2001: 11–36), for a comprehensive summary of the reasons against adopting Phonological Inversion (PI) for SC. We will also return to this issue in 4.5.

LBE of *kakvu* (which) from within the phrase *kakvu muziku* (*what kind of music)* occurs, resulting in *li* cliticizing onto the first word within its intonation phrase (W1).

(12) a. [Kakvu muziku] **li je** voleo?
what.F.ACC music.F.ACC Q CL.AUX.be.3SG love.PRT.M

b. Kakvu **li** **je** [~~kakvu~~ muziku] voleo?
what.F.ACC Q CL.AUX.be.3SG music.F.ACC love.PRT.M
'What kind of music did he like?'

It turned out that those sentences in which LBE takes place have a high acceptance rate of 84.9%. Considering the aim of this paper was to show that it is not the case that *li* cannot be hosted by XPs, this is a desired outcome. Considering, however, that LBE-order with branching argument phrases (e.g. direct and indirect objects like (12)) is generally taken to be marked, we found it very important to probe into this issue further.

We turn to the discussion of this directly in the next subsection, where we tackle the syntax and semantics of the *wh-XP-li* construction.[11]

4.4. The syntax of *wh-li* questions

Schwabe (2004), citing Rudin (1993), notes that in *wh-li* constructions the *wh*-words are focused. This is consistent with the argument that *wh*-words in SC are inherently focused and, therefore, must raise to SpecFocP (Stjepanović 1999, 2003; Halupka-Rešetar 2011, a.o). For SC, we will argue that subsequently, one of the *wh*-word ends up in SpecForceP hosting *li*. Look at the following examples:

(13) a. Ko koga kome predstavlja?
who.NOM whom.ACC whom.DAT introduce.PRES.3SG

b. Ko **li** koga kome predstavlja?
who.NOM Q whom.ACC whom.DAT introduce.PRES.3SG
'Who is introducing who to whom?'

Whereas (13a) illustrates a question with multiple *wh*-words, each of which landing, possibly, in its own SpecFocP position due to the focus feature in Foc°, *ko* further undergoes movement to SpecForceP.[12] The outcome of this movement is that *li's* clitichood properties are satisfied.[13] The relevant part of the structure of (13b) is given below:

(14) CS: [$_{\text{ForceP}}$ [$_{\text{Force}}$ **li** [$_{\text{FocusP}}$ ko [$_{\text{FocusP}}$ koga [$_{\text{FocusP}}$ kome….
PF: {{ ko}$_{\omega}$ li}$_{\text{c}}$…….

[11] We hope to undertake further experimentation and more comprehensive research and probe deeper into the issue. Since our items include only branching argument sentences, we focus on the literature findings dealing with only such items. For other types of sentences, the reader is referred to Diesing and Zec (2011), for both the elaboration and references.
[12] See Halupka-Rešetar (2013), for a multiple SpecFocusP analysis in SC.
[13] There are, theoretically, two ways of going about the movement of *ko* to SpecForceP. The option presented in the text follows the standard analysis of multiple *wh*-fronting in SC (see Bošković 2002), is an actually focus fronting (*wh*-words being [+focus]), with, crucially, further possibility of 'genuine' *wh*-movement to Spec, CP aka Spec, ForceP. Put in terms of the Split-CP system adopted here, that would mean that the *wh*-Phrases in (13) move to SpecFocusP with *ko* further moving to SpecForceP. As a 'side-effect' of this movement, *li* gets the appropriate host at PF. The empirical data would also be consistent with the assumption that Morphological Merger or Prosodic Inversion apply at PF by taking the syntactically available *ko* to act as the host for *li*. We return to this issue again in 4.5. Importantly, on either account, *li* ends in ForceP.

As for its semantics, whereas it should be clear that *wh-li* questions are not polar questions, it is not entirely clear what kind of utterances these are. Schwabe (2004), citing Damova and Brandner (p.c.) suggests that *wh-li* utterances in South Slavic (though used in information questions), overrule the existential presupposition introduced by the *wh*-word. The examples and their interpretations are given as in Schwabe (2004):

(15) a. Kakvo **li** nameri? Bulgarian
what Q find.PRT.SG
'What, if she has found anything, has she found?'

b. Šta li si mi to kupio? SC
what Q CL.AUX.be.2SG me.CL.DAT it/that. CL.ACC buy.PRT.SG.M
'What, if you have bought anything for me, have you bought?'

Whereas we agree that the context needed for these constructions is a bit peculiar, we disagree with the interpretation offered for SC. In SC, rather than matrix questions, these instances get to be interpreted as indirect questions; embedded, as suggested below, under an interrogative predicate like *wonder* or *be curious*:

(16) (Pitam se, pitam...)
šta **li** **si** **mi** kupio.
(I wonder and wonder…)
what Q CL.AUX.be.2SG me.CL.DAT buy. PRT.SG.M
Reading: I wonder what you got for me!

There is a presupposition that something is already bought.[14] Moreover, in at least some of the cases (16), the thing bought is liked by the speaker and the speaker always expresses a strong emotion about it. Typically, as in (16), some sort of surprise or excitement is involved. So, informally, the interpretation of *wh-li* can be summed up as follows:

x wonders/is curious about a question:
a) x isn't certain yet what is bought (the 'presupposition' might also be [+likable]) but
b) x wants to find out what it is (typically, x is also [+excited])

Though informal, there are important (formal) insights to be gained from it. Note first that it is clear that the meaning associated with *li* here is clearly not interrogative. If anything, it is the presence of *li* that disallows (16) from being a default, (non-echo) *wh*-(constituent) question, which, it would, otherwise, be:

(17) Šta **si** **mi** kupio?
what CL.AUX.be.2SG me.CL.DAT buy. PRT.SG.M
'What did you buy (for) me?'

If 'regular' polarity *li* originates in Force, it is conceivable that *li* in (16) originates in a position different from it, since it is interpretively associated with a non-interrogative interpretation. Roberts (2012) argues that that position is Focus and that Focus-Force positions are derivationally related in 'regular' polarity questions in SC as well, with *li* first merging in Focus and subsequently moving to Force. Along

[14] The existence of the presupposition is not surprising, of course. The complement of *li* in regular polar questions is always presupposed. The fact is that this presupposition is already affirmed. In other words, whereas regular polar *li* question like *Da li si mi išta kupio?* (*Did you buy me anything?*) can, in principle, be assigned either affirmative or negative value, we find that answering (16) with *Nisam ti ništa kupio* (*I did not buy you anything*) would be quite inappropriate. Note, further, that if the interpretation of Bulgarian *wh-XP-li* examples is correct, the fact that the presupposition is negated is equally surprising, for the same reason.

the similar lines, Moreno (under review) argues that *li* in what he labels 'biased *wh*-interrogatives' originates in Focus and moves to Force in S/C/B. He discusses structural as well as prosodic reasons to corroborate this claim and also points out that, semantically, focus and questions are standardly given a unified treatment.

Linking Focus and Force is quite reasonable. The role of focus marking in 'regular' *wh*-(constituent) questions has been well established (see Kamali and Krifka, 2020 and the references there for discussion). As illustrated in (18), it is the *wh*-constituents that correspond to the focus in answers.

(18) a. What did you buy me?
b. I bought you a $BOOK_F$

Though the interpretation of polar questions does not require focus, per se, it is possible for focus to occur:[15]

(19) a. Did $TRISTRAM_F$ buy a book?
b. Was it $TRISTRAM_F$ who bought a book?

Consequently, it is, as argued throughout, quite reasonable to propose that *li* moves via Foc^0 on its way to $Force^0$.

Importantly, we would like to propose that the base position of *li* in *wh*-XP-*li* is not Focus, but, rather, Fin(iteness). Interpretively, note that the unescapable flavor of surprise/excitement (strong emotion) noted for (16) is modal in flavor, which, in turn, suggests that *li* in (16) is actually a modal particle.

Recall that Finiteness expresses not only [+/-finite] (i.e. tense), but a cluster of inflectional properties we canonically associate with verbal paradigms (aspect, agreement, mood etc.).[16] Indeed, we argue that *li* in *wh-XP-li* merges in Fin^0 and expresses an exclamatory mood canonically associated with strong emotions like excitement, surprise etc.[17]

Moreover, there are clear cases where *li* is a modal particle, not involving *wh*-elements, but expressing the exclamatory mood further (20).

(20) Ti	**li**	si	to	uradio!	.
you.NOM	Q	CL.AUX.be.2SG	it.ACC	do. PRT.SG.M	

Reading: So it was you who did it!

Finally, there are also instances of *li* that clearly lexicalize other properties associated with Fin^0. Iterative (semelfactive) aspect (21) is one such example:[18,19]

[15] For SC, recall (9) in 4.1.

[16] As pointed out by Rizzi (1997), it is these properties that can morphologically be realized as Fin, and finite forms can be specified for tense, agreement, mood, aspect: [+], while non-finite forms generally lack these specifications.

[17] We see no reason not to extend this analysis to biased-*wh*-interrogatives. After all, exclamatory mood expresses both negative and positive emotions and allows the subsequent movement of *li* to Force, via Focus.

[18] Compare (21) with *I wrote and wrote, but they never responded.*

[19] Note that we restrict our discussion of *li* to SC alone. We do not make any claims about languages like Russian or Bulgarian in this paper. We find unfortunate the trend to forcefully lump morphosyntactic items found in different languages on account of their membership in the same group (in this case, Slavonic/Slavic), rather than carefully examine them. For instance, SC examples involving both focalization and topicalization, thus clearly indicating that *li* is spelled-out in FocusP are not a valid testing ground simply because they require *li* to appear in P3 position (i). Recall that it is conceivable that *li* in XP-*li* structures originates in Focus and subsequently moves to Force. The point that is crucially important for the discussion here is that data like (13b) clearly show that *li* ends up above FocusP (in Force, we argue) quite like *li* in 'regular' polarity questions.

(i) *[$_{TopicP}$ Knjigu [$_{FocusP}$Tristram [$_{Foc}$ li [čita?
book. ACC Tristram.NOM Q čita.3SG.PRES
(intended*:* As for the book, is it Tristram who is reading it?)

(21) Tristram sedi za kompjuterom i piše **li** piše.
Tristram.NOM sit.3SG.PRES at computer.INST and write.PRES.3SG ITER write.PRES.3SG
'Tristram is sitting at the computer, continually writing and writing.'

While space prevents us from delving into these issues further, we want to stress here that it seems reasonable to conclude that considering how 'unexpected' – syntactically and semantically – *wh-XP-li* constructions are when they are presented out of the blue (without a special context/without discourse and prosodic information furnished), some speakers are reluctant to accept them. In what follows, we probe further into the kind of markedness relevant for the *wh-XP-li* construction.

We concluded 4.3 stating that *wh-XP-li* sentences - featuring LBE and W1 placement of the clitic - have an acceptance rate of 84.9%, which is significantly higher than their non-LBE (P1) counterparts. Considering the aim of this paper was to show that it is not the case that *li* cannot be hosted by XPs, this was a desired outcome. Considering, however, that LBE-order with branching argument phrases is generally taken to be marked, the issue requires further examination.

Probing into the production and comprehension rules underlying clitic placement (with W1 vs. P1 as dependent variables), Diesing, Filipović, and Zec (2009) present the results of two experiments they undertook. Both the pen-and-pencil questionnaire (production) and the computer-based grammaticality judgment task (comprehension) revealed that in branching argument cases the preferred position of clitic is after the first phrase.[20] These results suggest that the unmarked, neutral option for branching argument sentences is the P1 clitic placement. Specifically, the preference for clitic placement after P1 in production was 92.98%. In only 2.41% of responses did the clitic find itself after W1.

Though the acceptance ratings (comprehension) in the second experiment for branching argument sentences were significantly higher for P1 than for W1 items, the difference was way less dramatic than the results of the production test. Further inspection and analysis of the data in Diesing (2010) points to the fact that though both clitic placements are grammatical, the marked (W1) clitic placement requires a rather specific context. Diesing (see also Diesing and Zec 2011) argues that the unmarked placements are compatible with a variety of contexts, including "neutral" ones, with the intonation that marks wide focus. Marked placement, on the other hand, requires contextual conditioning. Some examples of W1 clitic placement in branching argument sentences correlate highly with a Contrastive Topic (or Focus)[21] interpretation (the contrastive intonation peak on W1). The following examples from Diesing (2010) illustrate this:

Neutral Context: *You must be well-prepared...*

(22) **Taj zadatak *je*** veoma važan. **1P → OK**
that.DEM.NOM task.NOM CL.AUX.be.3SG very.ADV important.NOM

(23) **Taj *je* zadatak** veoma važan. **1W → incompatible**
that.DEM.NOM CL.AUX.be.3SG task. NOM very.ADV important.NOM
'That task is very important.'

[20] The study of Diesing, Filipović, and Zec (2009) was very comprehensive. In addition to the experiments discussed here, they also did the corpus-based analysis of Corpus of Serbian Language, consisting of approximately 11 million words and ranging from the 12th century to the present times. The component of the contemporary literary prose has over 1 million words. The results of their corpus analysis are on a par with their experimental results (see Diesing 2010; Diesing and Zec 2011 for elaboration).

[21] We adopt the insight of Diesing and Zec (2011) that the clitic in the morphologically marked order functions as a morphological Contrast (be it Contrastive Focus or Topic) and we do not discuss the distinction here. We hope to be able to probe into these issues further. An insightful analysis of Contrastive Focus and Topic by Kamali and Krifka (2020) proposes that the terms "focus" and "contrastive topic" are not unproblematic and that one should rather differentiate between disjunctive alternatives (a.k.a focus) and conjunctive alternatives (a.k.a contrastive topic).

The contrastive intonation peak on *taj* (23), is not compatible with the neutral, wide focus context provided. The unmarked P1 pattern in (22) triggers no contrast/intonation peak on the demonstrative *taj* (*that*). In contrast with (22), provided the contextual furnishing in (24), W1 intonation peak on *taj* and the associated interpretation of Contrastive Topic obtains. Whereas the contrastive emphasis is natural, the unmarked clitic placement (P1) is incompatible with the Biased Context provided by Diesing in the example below:

Biased Context: *Let's talk about the tasks assigned to you: xeroxing, making coffee, and lobbying the dean for more funding for research on clitics…*

(24) **Taj** ***je*** **zadatak** veoma važan. **1W → OK**
that.DEM.NOM CL.AUX.be.3SG task. NOM very.ADV important.NOM

(25) **Taj** **zadatak** ***je*** veoma važan. **1W → incompatible**
that.DEM.NOM task.NOM CL.AUX.be.3SG very.ADV important.NOM
'That task is very important.'

We argue that their findings and claims are relevant and insightful for our results regarding *wh-XP-li* construction and their interpretation. Recall that *wh-XP-li* construction is 'mismatched' and 'quirky'. In morphosyntactic terms, it overtly signals both the properties of canonical *wh*-constituent questions (presence of *wh*-elements) and it also contains the 'default' marker of polar questions (the presence of *li*),[22] while semantically, it is an exclamation that requires a very specific context. The fact, then, that *wh-XP-li* is favored in the marked (81W) option for branching argument-initial phrases, rather than the neutral (P1) option seems a reasonable hypothesis to make.[23]

4.5. *li* hosted by an *l*-participle

Compared to the acceptance rates of finite verbs and *wh*-XPs, the acceptance rate of 35.6% for the *l*-participle as a host for *li* is poor. Recall (see §3) that the results show a main effect of *Host* (β= 3,71, z= 9,09, p< 0.00001, for X^0, and β= 2,09, z= 6,02, p< 0.00001 for *wh*-word), which means that both finite verbs and *wh*-words were significantly more likely to be judged YES than the Intercept.[24] Though items in which a participle hosted *li* were clearly far less likely to be accepted than either finite verbs or *wh*-words, they were not completely rejected. One's task is, then, two-fold; one needs to i) explain why the *l*-participle is such a poor host and ii) understand the cases where the *l*-participle-*li* construction is accepted.

Before presenting our own account and analysis, note that if one were to accept that *l*-participles move as XPs/are XPs at some point during the derivation (as under Migdalski's account), the low acceptance of *l-participle-li* would come as a complete mystery, since genuine XPs (recall 4.3) are rated significantly better. Hence, we conclude that the account provided by Migdalski is not on the right track.

A different account pertaining to the marginality of the *l-participle-li* construction is proposed by Schwabe (2004). Her account is purely phonological in nature. Contra Bošković (1995 et seq.), who argues that it is syntax that provides the host for the clitics, Schwabe argues that appealing to Phonological Inversion (PI) is sufficient to account for the P2 effect in general, and for the ungrammaticality of the *l*-participle-*li* construction, in particular.

It is generally assumed that different phonological constraints play a role in the mapping from syntax (CS) to phonology (PF); Pronounce Highest Copy (PHC) and Prosodic Support (PS) are the two relevant for our discussion here. PHC demands that only the highest copy should be pronounced and PS requires that

[22] Note, in passing, that it also violates the allegedly "inviolable" Doubly-filled COMP Filter. For an insightful discussion against the postulation of theDoubly-Filled COMP Filter the reader is referred to Bacskai-Atkari (2018).
[23] We are preparing a follow-up that would test this hypothesis in a more comprehensive manner.
[24] The intercept are the items where the Host was an *l*-participle.

only clitics that have a host should be pronounced (see Franks and King, 2000 for discussion).[25] For Schwabe (2004), the cliticization of *li* onto the finite verb is a result of PI and has nothing to do with syntax (26a). If there are other clitics in the derivation as well, they will also subsequently cliticize onto the clitic phrase *daješ li* (26b) by further applications of PI.

(26) a. li {daješ}$_{\omega}$ → {{daješ} $_{\omega}$li}$_{c}$
b. {{daješ} $_{\omega}$ li}$_{c}$ mu ih → {{daješ}$_{\omega}$ li}$_{c}$ mu ih}$_{c}$

The only restriction on PI is that it cannot cross 2 phonological boundaries. Hence, Schwabe (2004: 55) analyzes the ungrammaticality of (27), as in (28).

(27)*Davao	**li**	**si**	**mu**	**ih**	svaki dan?
give.PRT.SG.M	Q	CL.AUX.be.2SG	he.CL.DAT	they.CL.ACC	every day

'Did you give them to him every day?'

The interface point between the relevant portion of CS and PF representations are given in (28a) and (28b), respectively. Since PS 'outranks' PHC, when mapped onto the phonological form, the highest copy of the pronominal clitic cluster (located in TP in syntax) is not pronounced. As a result, it is the lower copy of the auxiliary-pronominal cluster that is spelled-out and it cliticizes onto the participle.[26]

(28) a. [$_{\text{ForceP}}$ li [$_{\text{TP}}$ ~~si mu ih~~ davao [$_{\text{AgrSP}}$ si mu ih ~~davao~~…..]]]
b. li {davao} $_{\omega}$ si mu ih → li {{davao} $_{\omega}$ si}$_{c}$ mu ih
c. li {{davao}$_{\omega}$ si mu ih}$_{c}$ → *{{davao}$_{\omega}$ li}$_{c}$ si}$_{c}$ mu ih

Due to the cliticization, both the participle and the auxiliary clitic form a clitic phrase with two phonological boundaries to the left (28b). Being a clitic, *li* needs to cliticize onto the participle as well, but this is no longer possible since Phonological Inversion can apply across one boundary only (compare (16a) & (26b) with (28b)). As *li* cannot cliticize onto the participle (28c) and there is no other way for it to satisfy PS, the output where *li* is hosted by an *l*-participle (27) will be out. Essentially, under Schwabe's account, if there is an auxiliary clitic in the derivation and the potential host for clitics is a participle, the former cliticizes onto its host as soon as the latter is available – and that is, crucially, before the PI between *li* (which is much higher in the structure) and the participle can take place. To sum up, in Schwabe's account *li* cannot intervene between a potential host and a clitic (cluster) if the host is a participle and the cluster contains an auxiliary clitic. In any other case, it can.

Unlike in Migdalski's account, where the deficiency of *li* is seen as rooted in its 'fussiness' about the type of host, here, *li* is deficient in its inability to satisfy PS, because of the 'interfering' auxiliary clitic. We argue that any account that roots the (un)grammaticality of the *l*-participle-*li* structure to the deficiency of *li* is incorrect.

Note, first, that Schwabe's account predicts that in an environment where *li* and the *l*-participle were to be found without the auxiliary clitic intervening, such outputs should be grammatical. This prediction is empirically not borne out. There is no difference in the acceptability or grammaticality between (29a) and (29b) – whatever the status a native speaker gives to one of the two sentences, this judgment will be extended

[25] In current theorizing, the core of the PHC is captured under the assumption that, at PF, it is the head of a nontrivial chain that survives for pronunciation, and lower copies are typically deleted. Exceptions where lower members of nontrivial chains are pronounced have been noted in the literature (see Bošković and Nunes 2007 for references and discussion). Franks (1998) convincingly argues that deletion of lower copies in PF is just a preference. His insight is summed up in (i):

(i) A lower member of the chain is pronounced and the head deleted iff pronouncing the head of the chain leads to PF violation.

[26] We will return to the issue of PS (in its more current theoretical shape), and its relevance for our analysis of the marginal acceptability of the *l-participle-li* construction in our data. Here, we discuss it not only to faithfully illustrate the workings of Schwabe's analysis, but also to underscore the relevance of PS for morphology and phonology, regardless of one's account.

to the other as well. In other words, though the auxiliary *be* in (29b) is in a non-clitic form, the sentence is as marginal as (29a).

(29) a. ??Poljubio **li** **je** Mariju?
kiss.PRT.SG.M Q CL.AUX.be.3SG Maria.ACC

b. ??Poljubio **li** **bejaše** Mariju?
kiss.PRT.SG.M Q be.IMPF.3SG Maria.ACC
'Did he kiss Maria?'

The same is true for (30) and (31). Unlike in (31), where the auxiliary clitic is overtly realized, the abstract morpheme lexicalized as *je* in (31) is phonologically null in (30). Reasonably, being morphologically covert, it does not need either a host nor does it interfere between the participle as a host and the clitic *li*. However, in terms of their grammaticality, both of these sentences will be treated as marginal, at best.

(30) ??Isprskao **li** **se** hladnom vodom?
spray.PRT.SG.M Q CL.REFL. cold.INST water.INST

(31) ??Isprskao **li** **je** kupatilo hladnom vodom?
spray.PRT.SG.M Q CL.AUX.be.3SG bathroom.ACC cold.INST water.INST

A final set of cases against Schwabe's (2004) account of *l*-participle-*li* is presented by the cases of the so-called *krnji perfekt* (i.e. structures featuring a participle without an accompanying auxiliary). Though an example like (32) is perfectly fine, its *l*-participle-*li* counterpart (33) would be marginal, at best.

(32) Propao mu i treći brak!
fail.PRT.SG.M he.CL.DAT and third marriage.NOM
'Even his third marriage failed!'
(https://www.espreso.co.rs/showbiz/zvezde/853791/)

(33) ??Propao **li** mu i treći brak?

The reason, we claim, (29), (30), (31) and (33) are marginal, at best, lies in the fact that, in all of them, it is the *l*-participle that hosts *li*. The crux of the 'deficiency' is not in the clitic, but, rather, it is rooted in the non-finiteness of the participles. And the reason why the *l*-participle-*li* construction is marginal lies in the fact that participles cannot move to the C-Domain (via T) of the finite clause.

The rationale behind the movement of finite verbs from *v*/V-to-I/T is related to the rich subject agreement on the finite verb.[27] Though the *l*-participle in Slavic carries a subset of phi-features (gender and number), it crucially lacks the expression of person.

Recall now that we have adopted the Split-CP hypothesis of Rizzi as the theoretical frame here. In the previous sections, we focused on the 'top' part of the articulated CP –ForceP – looking 'outwardly' i.e. at 'discourse articulation', with Force^0 indicating the type of clause it is. Here, we will focus on the

[27] Since the 1980s, a number of studies have investigated a potential correlation between the syntactic position of the verb and the properties of subject-verb agreement morphology (see Koeneman and Zeijlstra 2014 and the references there a.o.) In general, these studies concluded that the 'richness' of the distinctions in the paradigm of verbal inflections correlated with a specific position of the verb in the clause; if the verb in a particular language has a rich paradigm of inflectional forms for subject agreement, it undergoes 'v-to-I/T' movement. Hence, v-to-I/T movement is the operation that accounts for the correlation between verb movement and agreement morphology.

complementizer looking 'inwardly', interfacing with IP/TP, and on the lowest head within the CP –Fin^0 (34). FinP embodies the idea that complementizers show a degree of sensitivity to the finiteness of the IP/TP. As previously discussed, there are a number of properties contained by the Finite Phrase, the most important for our discussion here is that it contains "a tense specification which matches the one expressed on the lower inflectional system…" (Rizzi 1997: 283). For instance, whereas *that* is [+declarative, +finite] and occurs in a finite clause, the complementizer *for* bears the features [+declarative, -finite] and thus occurs in a non-finite clause.

(34) [Force [Top [Foc[Top **[Fin [IP/TP]]**]]]] (Rizzi 1997)

FinP is in direct contact with the content of the IP/TP and is the landing site of the finite verb within the CP. For non-finite categories like participles there is no syntactic reasoning to find themselves in a finite T or move to finite Fin. Bošković (2001: 44) expresses essentially the same idea about the finiteness and movement "given that cross linguistically, in languages in which V–to–C movement clearly takes place in finite clauses, only finite verbs move to C, which indicates that finiteness motivates the movement."

P2 is a phonological requirement and though Prosodic Inversion (PI) resolves mismatches between syntactic and phonological structures allowing *li* to encliticize to the adjacent prosodic word, the available candidates/hosts in SC must be provided by syntax. Being [-finite], the *l*-participle will never be a valid host for *li* in finite clauses since syntax will never be able to move it as high as it needs to be (via T to Fin^0) to be a legitimate host for *li*. The prediction of our account is that other [-finite] forms will behave in exactly the same way as *l*-participles with respect to hosting *li*. This prediction is borne out. Compare the marginal (35) to the perfectly fine (37). Note that the only difference between the two sentences is in the [+finite] feature; whereas (35) features infinitives, (37) features corresponding finite verbs.

(35) **??Otići$_{[-finite]}$** *li* ili **ostati**?
go.INF Q or stay. INF

(36) **Da** *li* **otići** ili **ostati**?
COMP Q go.INF or stay.INF
'To stay or to go?'

(37) **Idemo$_{[+finite]}$** li ili **ostajemo**?
go.PRES.1PL Q or stay.PRES.1PL
'Should we stay, or should we go?'

Note further, that, once *li* is provided with an appropriate host (complementizer *da*-insertion) as in (36), the sentence becomes fully grammatical.[28]

Cases of stranded affixes (e.g. *li* in *l*-participle-*li* construction and examples like (35)), where the tension between syntax and phonology cannot be satisfactorily resolved by one or another rescue strategy at PF (e.g. *da*-insertion in (36)) are not the only ones. The so-called *fortresses* (Halpern 1992/1995) are the most famous cases among them.

(38) a. Prema kome **je** Tristram grub? P1
to(wards) whom.DAT CL.AUX.be.3SG Tristram.NOM rude.NOM

b. ??/*Prema **je** kome Tristram grub? W1

[28] Though a default manner for licensing the [Q] feature in polarity questions in SC is by utilizing the clitic *li*, the [Q] feature can be licensed by intonation alone as well in some cases. Namely, in the absence of the overt syntactic interrogative marker (the clitic *li*) prosody can license the [Q] feature. It is for this reason that *Biti ili ne biti?/To be or not to be?* quite like *Ostati ili otići?/To leave or to stay?* are perfectly fine.

to(wards) CL.AUX.be.3SG whom.DAT Tristram.NOM rude.NOM
'Who is Tristram rude to?'

c. Gurnuo **je** juče Lorensa.
push.PRT.SG.M CL.AUX.be.3SG yesterday.ADV Lorens.ACC
'He pushed Laurence yesterday.'

Recall that both LBE and the subsequent W1 cliticization of *je* are generally permitted in SC (see (12) in 4.3 and the discussion there). The example in (38b) is, however, marginal, at best. The reason is purely syntactic; PPs are resistant to LBE – they do not allow their complements to be split from them (39b), while VPs do (40b):

(39) a. **[$_{PP}$ Prema Tristramu]** Lorens trči.
to(wards) Tristram. DAT Lorens. NOM run. PRES.3SG
'It is towards Tristram that Lorence is running.'

b. ***Prema** Lorens trči **Tristramu**.
to(wards) Lorens. NOM run. PRES.3SG Tristram. DAT

(40) a. Tristram **piše** Lorensu **knjige**.
Tristram writes. PRES.3SG Lorens. DAT books.ACC
'Tristram writes books to Laurence.'

b. **Piše** Tristram Lorensu **knjige.**
writes. PRES.3SG Tristram.NOM Lorens.DAT books.ACC
'Tristram DOES write books to Laurence.'

Importantly, at PF, there should be no difference between (38b) and (38c) – PF should not be able to discriminate based on syntactic criteria (VP vs. PP) and yet, PI, a purely phonological mechanism, cannot apply to (38b).[29]

To sum up, due to its non-finite nature, the *l*-participle cannot move as high as the C-domain in a finite clause. Since syntax cannot place the *l*-participle in the C-domain of the relevant clauses, the *li*-participle fails to be a legitimate (i.e. grammatical) candidate for a host for the clitic *li*, i.e. a legitimate candidate for PI, a phonological repair that needs to be applied to satisfy the properties of SC clitics.

As a final part of this analysis and discussion, we turn to addressing the fact that the *l*-participle, though significantly less favored as a host for *li*, was not fully rejected.

Recall first that, rather than viewing P2-ness of SC clitics as a 'fact of their nature', we take the insight that the P2-ness of SC clitics is an outcome of them satisfying their conflicting, morphophonological requirements (41):

(41) i) #__ (where # an intonational phrase boundary) and
ii) suffix (Bošković 1995: 263)

Putting aside (41i) for the moment, note that the interface tension between morphophonology and syntax actually arises from (41ii). It is the affixal nature of clitics that requires the application of one or another repair strategy at PF to ensure convergence at PF. Namely, whereas in syntax affixes are fully-fledged, legitimate, syntactically autonomous entities, in phonology they are deficient in ways in which comparable non-affixal entities are not. Lasnik's (1981) "stranded affix" filter captures this "conflict" at the CS-PF interface (42).

[29] For discussion and references (including the proper account of seemingly problematic and seeming 'splitting' of canonically non-branching PPs like *U veliku je Jovan ušao sobu*/*Jovan walked into a large room*, the reader is referred to Franks (1997).

(42) The "stranded affix" filter: A morphologically realized affix must be a syntactic dependent of a morphologically realized category, at surface structure.

In other words, whereas abstract syntactic features, like [+fin] do not care if they are associated with 'weak' or 'strong' bits of overt morphology, phonology does. Indeed, the stranded affix constraint, which requires that the underlyingly freestanding affixes ultimately be attached to an appropriate host, was originally proposed with overt morphology as a concern, rather than syntax. The affixal nature of clitics 'drives' Prosodic Support (PS).

At PF, quite like in non-clitic instances, Pronounce Highest Copy (PHC) accounts for the (empirically attested) preference for the pronunciation of the highest copy of a nontrivial chain (see also fn.21):

(43) [$_{TP}$ The students [$_{VP}$ arrived ~~the students~~]]

(44) A lower member of the chain is pronounced and the head deleted, iff pronouncing the head of the chain leads to PF violation. (Franks 1998/1999)

Consequently, at PF, the highest copy of the clitic is retained, unless, crucially, it lacks phonological support. Languages use different strategies (deletion, insertion, movement) to mitigate convergence problems at PF. Prosodic Inversion (PI) is one of the movement strategies, used as a repair to rescue stranded affix configuration at PF. For ease of reference, we will further couch our discussion in terms of Halle and Marantz's (1993) Distributed Morphology (DM).[30] Due to its core idea that syntax is abstract in the sense that it does not contain phonological information (e.g. rather than that, syntax deals with the features [+declarative], [+finite]), [+Q] [3SG] etc.), the framework allows us to lay out our account in a more precise fashion.

DM separates syntax from morphology; the actual morphological bits and pieces are inserted post-syntactically, in the morphological component. It is at that point that abstract morphemes are supplied by their phonological content. Quite like PI, it is the Morphological Merger that is employed to rescue stranded affixes at PF. Embick and Noyer (2001) argue that there are two types of Morphological Merger: Lowering and Local Dislocation. The motivation for such a division is given by the locality conditions that allow affixation at PF: Lowering proceeds under immediate locality, while Local Dislocation takes place under strict adjacency.[31] It is Local Dislocation – the restrictions on which are illustrated in (45b) – that is relevant here.

(45) a. Mary is the mo-**st amazingly** smart person.

b. *Mary is the **t** amazingly smart-**est** person

(Embick and Noyer 2001)

The reason why (45b) is out lies in the fact that Local Dislocation requires strict adjacency between the targets of the movement. It is the presence of the adverb *amazingly* in (45) that violates the strict adjacency between the superlative suffix and its host (*smart*). Rather than movement, (45a) features insertion as a PF rescue strategy. Embick and Noyer (2001) further argue that Local Dislocation and Linearization occur simultaneously with Vocabulary Insertion. Evidence for this comes from the phonological sensitivity of Local Dislocation.

We argue that the marginally acceptable *l-participle-li* cases should be accounted as a case of Local Dislocation and that both *l-participle li* and the well-known cases of the residue of prosodic effect (see

[30] With respect to the issues at hand, the reader is particularly referred to the work of Marantz (1988/1989), Halle and Marantz (1993), Embick and Noyer (2001), and Embick (2007).

[31] Immediate locality is the relation between a head and the head of its complement. This is the structural condition that applies for T to v lowering in English, where the relation between the affix and the verbal base can be interrupted by adverbs (Embick and Noyer 2001 for discussion)

Progovac 1996, Franks 2000) should be treated on a par. The residue of prosodic effect, first noted by Progovac (1996), illustrates exactly the same type of tension between CS and Phonology as the *l*-participle *li* construction. These are cases of stranded affixes, for which syntax failed to provide a legitimate host through syntactic movement. Though the Coordinate Structure Constraint prevents the syntactic movement of *Tristram*, the fact that (46) is marginally acceptable suggests that Local Dislocation can apply as a sort of a "last resort" rescue for the stranded affix, i.e. auxiliary clitic in (46):

(46)**??/*** Tristram$_i$ *su*$_j$ **[t$_i$** i njegova žena**]** **t$_j$** tužni
Tristram AUX.2PL and his wife.NOM sad
'Tristram and his wife are sad.'

Quite like in (46), we argue that the marginally acceptable *l-participle-li* cases should be accounted for by Local Dislocation as a "last ditch effort" to salvage a structure at PF.

The example (47a) is an instantiation of a stranded affix structure at PF. The structure satisfies the strict adjacency requirement; *li* and *kupio* are linearly adjacent. *Kupio*, a phonological word, can perfectly function as a host for a stranded affix. Since *li* is a stranded affix, some speakers apply Local Dislocation.

As suggested by the low acceptability ratings of *l-participle* as a host in our experimental data, as well as by our own native judgements of the grammaticality of (47) (as well as (46)), instantiations of the application of Local Dislocation that satisfy PF, but override CS, are marginal, at best. Note, however, that they are still better than not employing this rescue strategy. [32]

(47) a. li {kupio}$_\omega$ → {{kupio}$_\omega$ li}$_c$
b.??/* Kupio li mu je poklon?
BUY.PRT.M Q CL.DAT.M AUX3.SG. PRESENT.ACC
'Has he bought him a present?'

5. Conclusion

Finite verbs (X^0s) and *wh*-words (XPs) are both legitimate hosts for *li* because they move to the C-system of finite clauses in syntax. The reasons why test items in neither of the two conditions tested reached 100% acceptability rate are due to factors that do not bear on the grammaticality judgments. In the case of *V-li*, it seems to be a case of pure preference (there are several ways of satisfying the P2 requirement of *li*, some of which could be strongly correlated with regional differences). Due to the nature of the online setup, it is also possible that some of the extralinguistic factors played a greater role than they otherwise would, if the participants were to be in an offline, more controlled setup. We hope that the follow-ups we plan to undertake will provide more insight into these issues. The reduced acceptability of *wh-li-constructions* is primarily due to the fact that the test items were presented without an adequate context. We hope to explore in further research the many questions the complexities of the *wh-li-construction* raised in this study. Last but not least, we argue that the marginality of the *l*-participle-*li* construction is due to the inability of participles to move to the C-system of finite clauses in syntax. Their "reduced mobility" is, in turn, a consequence of their non-finite nature. As we demonstrated, other non-finite forms behave exactly like *l*-participles in this respect.

The finding that 35.6% of the *l*-participle-*li* items were accepted is analyzed as a "last resort" application of Local Dislocation - a type of Morphological Merger. As discussed throughout, the method

[32] Theoretically, an alternative way to derive (47) is to argue that there is a participle which is Topicalized. This alternative would also require independent evidence that SC TopicP can occur higher than ForceP in the case of polarity questions. As suggested throughout, independently, we intend to pursue further exploration of the *li*-construction using a different methodology that would, at least, allow testing this hypothesis. Since our data were presented in an online setup, with no discourse or prosodic information, we take it that speakers treated them in a neutral context. This assumption is also consistent with the fact that the sentences were rated significantly more poorly than the *wh-li*-constructions, which also require a very specific context.

chosen for the experiment opened a lot of exciting questions for further research, but it also leaves space for improvement. Whereas computer-based acceptability tasks allow a generous quantity of data, they have their drawbacks and, as mentioned throughout the paper, we hope to be able to undertake a number of follow-up experiments of different types, both to mitigate the shortcomings and to probe further into the issues that arose from this research. A paper-and-pen experiment that will allow us to probe into the production of *li*-constructions is one such example. Considering the richness and the complexity of the data, further experimentation should involve both discourse and prosodic information. Nonetheless, we hope that the existing experiment provides a solid baseline and a good starting point for further experimentation as well as theorizing in this particular empirical domain of CS-PF interface.

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